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OUR BEEF SUPPLY.

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One of the most important considerations for the physician is the character of the diet of his patient, as well as of the community in which he lives. The most valued of articles of human food is beef. It was a favorite aphorism of one of our learned professors that beefsteak is the best tonic. This to a very large extent is true, and therefore, all other things being equal, it must be of vital interest to the physician to have the supply of beef of the very best, and to have it in that condition which will furnish the greatest amount of healthy nutrition in the most suitable form, palatable and at a comparatively low price.

To speak of this matter intelligently, it is necessary first to consider what are the characteristics of good beef, what should be avoided and what required in its production.

Good beef, then, should be bright red in appearance, the muscular parts firm and elastic, the fat hard, and light yellow or white; it should be free from all substances calculated to expedite putrefaction, such as exuded blood, bruises, or extraneous dirt. To produce such beef, it follows that the animal from which it is taken must be in a perfectly healthy condition and of the proper age when slaughtered, and that the process of slaughtering and preparing for market must be conducted in such a way as to obviate anything tending to vary from the conditions just enumerated.

Certain conditions may be enumerated which invariably tend to produce poor, unhealthy, as well as unsavory beef, while others just as surely will result in good, healthy, and appetizing meat. No one can deny that long driving and exhausting railroad journeys in crowded cattle cars with insufficient food and water, the animals goaded, beaten, and bruised by brutal drivers, frightened by unusual noises, will cause inflammatory, congested condition of the meat and can never result in good wholesome beef. Again, the careless handling of the dressed meat, filth and dirt allowed to accumulate about the meat in the slaughter-house, insufficient emptying of the blood from the carcass, all injure the quality of the beef.

The blood in its normal condition almost invariably contains noxious elements. From the very nature of the double office of the circulatory system, this must be so, for while, on the one hand, the blood serves to renew the various parts of the system after their ordinary wear and tear, on the other, it has to carry off the natural waste of the tissues. This waste or refuse is ultimately eliminated by means of the kidneys, the sudiparous glands, etc., and then appears in its avowed character of excrementitious matter; but it must always be, to a certain extent, present in the blood, and in event of any derangement of the action of the kidneys, accumulates in considerable and highly poisonous qualities. It must therefore be evident that the blood is always an undesirable article of food, especially as it is impossible when an animal is slaughtered to separate the arterial

from the venous blood, which would be the only means of overcoming the difficulty.

"We contend," says one writer, "that to use the blood as food approximates very closely to drinking urine, and is not merely loathsome but *pro tanto* unsafe. That like liquid and solid excrement, it is valuable for plant food, and that it serves as pabulum for certain classes of animals, is no proof that it is fit for human consumption."

The old Jewish Rabbins, well knew the importance of this, some 1700 years ago, when they recommended that in slaughtering animals in addition to severing the trachea and œsophagus the blood should be poured out from the vessels of the neck and this at a time when it was believed that arteries contained only air.

And yet another consideration, which is that beef should be long enough killed before it is cooked to have allowed of complete relaxation of the muscular contraction of the fibre without permitting even the slightest decomposition to take place. We must not for a moment lose sight of the fact that any process of decompositio . may be arrested by antiseptics, yet can never be so remedied as if it had not taken place.

It is clear, then, that healthy animals of a proper age, well rested, fed and watered, killed in such a manner as to produce the least fright and congestion, dressed in the cleanest possible manner, completely deprived of the excessive blood and animal heat, and so kept as to prevent even the slightest decomposition will furnish the best, most wholesome and appetizing beef.

The last consideration is the availability of such good beef to the largest number of people. The nearer to the point of production and the more direct a product is bought from the producer the cheaper it must be.

Having thus spoken of the characteristic requisites, and cost of wholesome, well-tasting beef, we will now briefly consider if such can be so found within our reach.

In Chicago, one thousand miles nearer the vast cattle-producing pastures of the far West, are the largest stock-yards in the world. Connected with the entire Union by the most extensive system of railways centering there, cattle are brought there from all directions, but more largely from the vast ranches of Montana, California, Nebraska, and Texas, and after being fully rested, fed, and watered are picked out and bought by a vast army of buyers for local use as well as for reshipment. The principal grades of cattle here represented may be divided for our purpose into home-raised and range cattle, and it may be stated that the quality of these latter has been vastly improved during the last few years, not only by more careful breeding, but principally from the fact that so many railroads are now operated through the country that it no longer pays to drive these range cattle on foot only for the shortest distances to the nearest railway station.

The cattle having thus been carefully selected and purchased are driven to the cattle-pens of the different slaughter and packing-houses which surround the stock-yards and form a very large suburb of Chicago.

To give a correct idea of what seems the best method of slaughtering and dressing animals for the supply of wholesome, good beef for the Eastern markets, we will now enter one of these establishments and follow a steer from the pen to the market in Boston, New York, Liverpool, or London.

One of the largest of these beef-dressing places located on the edge of the stock-yards is that of the Swift Brothers, whose name on refrigerator cars and large refrigerators in the Eastern markets has become so familiar.

The bullock to be killed is driven from the enclosure wherein he is confined to a separate pen and thence into a narrow stall where he is alone. Here he is stunned by one or two blows upon the head which has a double object, one to disable him, but the more important object is to drive all the blood possible to the brain and forward parts. After this, a chain is fastened to him and through a sliding door he is hauled upon what is called the bed of the slaughter-house. Overhead throughout the entire buildings are a system of iron tracks, intersecting and connecting by switches to which are attached sheaves and blocks with hooks, and these being connected with powerful steam machinery, may be run in any direction. After the steer is thus placed upon the bed, his fore feet are so placed as to open as wide as possible the opening which is to be made in his arteries, and thus make sure of the perfect and entire exit of blood. He is again knocked in the forehead until his muscles relax, when a man opens with a sharp knife one of the largest arteries in the body at the lower throat; his head is then entirely severed from the body, and by means of a chain on the hind legs he is hoisted up clear of the floor, and he is shoved into another place to make room for a fresh victim; he is again lowered on the floor, where he is placed on his back, his feet taken off, the skin taken off the belly and sides, the breast and crotch sawed open, and the caul taken off. This caul surrounding the stom-

ach contains the purest fat in the steer, and is washed and cleansed to be converted into the finest and most valuable suet oil. The carcass is then wiped all over, washed free from all blood stains and other impurities, he is then hooked and hoisted up part way, the tail is cut out, furnishing ample material for the celebrated ox-tail soup, the rump is skinned, and after being hoisted clear of the floor, two men beat down the fell on the hind legs, another takes the hide off the back, the entrails are removed, and the animal is sawn down the spine from the tail, the back is thoroughly washed off and wiped and split down the middle; he is then hoisted further and run on a track to more thoroughly drain out the blood, the hide is entirely cut off from forelegs, neck, the last attachment; and this is done in such a neat, careful way, with clean knives and hands, that the hides from this establishment bring an extra price in the market. The neck is split and the carcass is trimmed carefully, cutting off all ragged pieces of fat or meat, all blood stains or bruises. It is again thoroughly washed in two waters and wiped dry, when it is allowed to hang at the back of the beds near the cooler, where, after being allowed to thoroughly drip some fifteen minutes or more, it is again wiped and trimmed and shoved in the cooler to be entirely deprived of its remaining animal heat. It will thus be seen that the carcass is not only kept very clean, thoroughly emptied of blood, being about one hour or more in transit from the pen to the cooler, but none of the meat is ever, under any circumstances, allowed to touch the floor. The number of men actually handling the animal from the pen to the cooler is forty-two. In addition to these there are large numbers carrying away offal, washing floors and posts, wiping the hooks and implements, so that at the close of each day's killing, there is not any filthy debris or even blood left on the floor. While it is unavoidable for those who do the bloodiest work to keep from soiling their hands and clothing, they are, by the strictest discipline, compelled constantly to wash their bodies, and the clothing is changed and washed at every resting spell. All debris is instantly removed and worked up to some useful purpose, so that there can be nothing remaining to cause any foul smell or decomposition, and in the various buildings on the grounds, though every process of manufacture of the debris is carried on, no smell of an objectionable nature is perceptible, and cleanliness is carried to such an extent that a lady with kid gloves could fearlessly handle the woodwork of the coolers and the meat therein contained without soil or stain. The floors of these coolers are covered with clean, dry sawdust, which is changed every other day. These coolers or refrigerators are very simple in construction, with hollow walls, having an ice chamber overhead, the cold air from which is conducted downward, and thus is kept up a constant circulation of pure air at an even temperature of about 40° F. These refrigerators have ample room to hold about 7,000 cattle. The cars in which this beef is transported are built on a similar principle, and will each contain from twenty-five to thirty-four cattle. The meat is usually kept forty-eight hours before shipment, by which time all animal heat is surely expelled from the meat. It is from three to four days on the way to New York, and on the way the ice is resupplied four times; thus beef sent from this place is at least seven days old when it reaches the New York market. In the winter time the same temperature is maintained; but, of course, the ice needs only to be replenished twice.

Beef which has been thus refrigerated will keep out of the refrigerators perfectly sweet and wholesome two days, even in the hottest weather. It is unnecessary to state that ordinary beef not so well cleansed, and not having the animal heat so thoroughly removed, will not keep nearly so long.

This concern uses about thirty-three car-loads of fresh ice per day. As each car averages fourteen tons, this makes about 500 tons of ice per day.

Ice is very cheap there—so much so, that it does not even pay to manufacture artificial ice, much less to use any chemical or other artificial means of cooling.

One notable fact connected with this process of slaughtering cattle is that the hearts of animals so killed are always empty of blood, whereas those killed by other processes are generally full. Beef thus prepared is sent by rail to the coast, shipped in similar refrigerators on steamers to Liverpool and London, where it is taken out of the coolers, carted and sent by ordinary rail-car to Smithfield and other markets in England, and has always been in good condition and superior to English beef. In one instance meat was thus kept forty-three days on a disabled steamer, and yet was in fair condition on arrival in England.

There has been considerable prejudice created against this so-called Chicago dressed beef by ignorant and malignant misrepresentation, sometimes wilfully confounding inferior canned beef, which, because it is also packed in Chicago has been called "Chicago beef;" and, again, while

the writer has frequently seen butchers selling Chicago dressed beef as New York beef, while they were vigorously declaiming against this Chicago stuff, and pointing out inferior New York beef as being Chicago meat. It has got to be quite customary now with careless reporters whenever, justly or unjustly, meat has to be spoken of as the cause of sickness, glibly to describe it as Chicago beef, thus creating an unfounded prejudice against what is really a wholesome, palatable, and cheap article of diet. Many districts of country which have heretofore suffered for the want of tender, toothsome beef, are now well supplied from this source. (About two thousand head of cattle are daily slaughtered in this establishment.)

Some of the prejudice against this beef has been created by the ignorance of the so-called leaders of workingmen, who led them to believe that by using Chicago meat they were injuring their fellow-workmen along the various railroads between Chicago and the Atlantic board, as well as those in the New York slaughter-houses. The fallacy of this belief is too evident to require argument.

MUCOID OR PURULOID ENGORGEMENT OF THE ANTRUM.

BY JOHN S. SMITH, D. D. S.,
Of Lancaster, Pa.

Mrs. H., married, aged 24 years, was brought in consultation to me in August, 1883, by her dentist, Martin Musser, D. D. S., of this city.

The patient had suffered for a period of nearly two years with neuralgia and periodontitis at times in her left upper jaw and face. The pain was at first felt in the pulp of the first bicuspid tooth; the pulp was subsequently devitalized, and the canals filled with a temporary filling. For certain reasons the operation was not completed with a permanent filling. The case came into Dr. Musser's care, who finally extracted the tooth, which gave no relief. The face continued swelling, the pain became unbearable, and it was concluded to consult other advice.

I made a thorough examination of her mouth and teeth upon the affected side. The gums over and around the first and second molars were inflamed. These teeth were filled with large gold plugs, which occupied the crowns, and on percussion with an instrument showed some degree of pain. The wisdom tooth was missing, having not erupted. Suspecting diseased condition of the antrum, my attention was directed to the nares of the effected side, which was found free from moisture.

There was noticed a discharge of a mucus nature escaping from the inner canthus of the eye; the conjunctiva was inflamed, with an intermittent flow of tears over the lower lid; the sight was somewhat defective at times. The patient showed symptoms of a marked anæmic condition; had lost in body weight; appetite poor; the pain was intermittent; when it was the most severe she located it under and back of the orbit, and in the body of the cheek bone; here the pain was characterized as a dull sensation, and at times producing a fullness as though the face would burst.

Further examination revealed uniform fullness over the region of the antrum, and slight fluctuation upon pressure, and tender to the touch; the skin presented a blush-red appearance with a number of rose-red and purplish-colored spots scattered upon its surface. This condition was more noticeable when the pain was greatest, thus showing the deep-seated congestion of the parts involved.

Diagnosis.—The foregoing history of the case was sufficient to establish the fact of an engorgement of the antral cavity, brought about by the result of a reflected chronic periodontal inflammation. The tumor noticed upon the cheek was distinguished from others that might affect this particular locality: first, by the history of the case; second, by the dryness of the nares of the affected side; third, by the gradual and regular enlargement; fourth, by the non-association of the integuments of the cheek; and fifth, by a fluctuation which it yielded upon pressure. The long-continued periodontal inflammation resulted in the engorgement of the antral cavity by a reflected chronic condition of the parts, which were filled with a profuse discharge and closure of the orifice or outlet of the sinus, thus causing the attenuated condition of its walls, which was the result of the protuberance noticed upon the cheek. One of the weakest points had finally given way, namely, a slight rupture into the orbit. From this fistula flowed a muco-purulent fluid (inodorous). This established our diagnosis—mucoid, or purulent engorgement of the antrum.

Treatment.—"To treat successfully such a disease we have only to search out the source of offence, and where it is possible, remove it."

The first superior molar was directed to be removed, which was done by Dr. Musser a few days later. The pulp was found to be dead. There was no discharge from the alveolus after its re-

moval. Disappointed in this, an attempt was made to puncture the antrum through the palatine alveoli socket of the tooth. The pain being too great, further operation for the time was abandoned. A few days later the patient was again brought to my office, suffering greatly; the face was swollen, and she was feverish and the mouth was hot. These symptoms were controlled by proper remedies, and an external application of lead-water and laudanum was ordered to be applied, and the patient dismissed until the inflammatory condition had subsided. At the next sitting, a few days afterwards, the second molar was removed and the pulp also found dead; and there was some absorption of the alveolar process (buccal portion). Upon its removal, a small quantity of thin ropy fluid escaped with the blood. The outlet not being sufficiently large, the patient was etherized by Drs. D. R. Summy and Musser, and I passed a suitable-sized trocar through the alveoli of the palatine fang, opening into the antrum; this was followed by more abundant purulent secretions. The cavity was then thoroughly washed with tepid water, and the following stimulant wash prescribed:

℞. Glycerinæ, ℥j.
Tinct. opii camph., ℥ij.
Aquæ coloniæ, ℥iv.

M. S.—To be thrown into the cavity daily with a syringe.

This, in addition with phenoli sodique diluted and warm water, formed the local dressings observing to keep the opening patulous with cotton-wool.

The general systemic treatment consisted in taking good, nourishing food and free exercise in the open air, and the administration of copaiba, tincture of iron, and quinia.

In six months the patient made a good recovery from the antrum trouble. The purulent secretion from the eye ceased, but at this writing the eye still remains weak and at times a profuse lachrymal flow over the lower lid, notwithstanding she has had the probe passed for stricture of the lachrymal duct. Hopes, however, are entertained by the ophthalmic surgeon having this now under treatment, of a final cure.

—The manufacture of perfumeries from Florida-grown flowers bids fair to become an extensive industry in that State. One firm in Jacksonville is already at work. It is reported that a gentlemen from South Florida has patented a process for the utilization of the mangrove and sapodilla, and to extract the sweet fragrance from the cassave plant as well

Hospital Reports.

HOTEL DIEU, PARIS, FRANCE.

Lecture on the Mechanism of Epilepsy: Experimental Epilepsy.

BY PROFESSOR GERMAIN SÉE.

Gentlemen: In a former lecture I called your attention to the fact that epilepsy has no anatomical characteristic; that it is dependent on no known pathogenic lesion, not even the alterations of the olivary bodies indicated by Schroeder, Van der Kolk, nor the atrophic degenerations of the cornu ammonis described by Meynert. In fact, we have nothing but experimental physiology to explain the nature of the phenomena, so diverse in appearance, which constitute the various forms of epilepsy.

To attain this end, to obtain light respecting the mechanism of epilepsy, and to assign to this disease its true place in that vague class of maladies called neuroses, which have nothing in common but the absence of material lesions, we must make artificial epilepsy, and reproduce in animals what clinical practice shows us every day. It is important, from this point of view, to omit none of the elements of the complex syndrome, which whether under the form of *grand mal* or *petit mal*, is always attended with complete, though sometimes momentary loss of consciousness. This loss of consciousness, which from its essentially subjective nature is more difficult to decide upon, besides being more difficult of reproduction in animals than the convulsive attack, constitutes in man a whole series of rudimentary epilepsies called "epileptic vertigo," "epileptic absences," "*petit mal*," and the "larval" or "supplementary" epilepsies, which are exclusively psychical.

This being premised, we may arrange under three heads the means known for provoking epilepsy: one consists in over-excitation, through the instrumentality of the different parts of the nervous system, of the reflex function in general, especially that of the bulb, thereby attaining the first condition of epilepsy, viz., reflex hyper-excitability; this we will call excito-motor epilepsy. A second method has especially for its end to augment the excitability of the vaso-motor centre, which has also its seat in the medulla-oblongata; this we will call vascular epilepsy. The third manner of provoking artificial epilepsy is to excite the cortex cerebri; this we will call cortico-cerebral epilepsy.

Bulbar Excito-Motor Epilepsy.

It is more than thirty years ago since Brown-Séquard succeeded in producing artificial epilepsy by practicing sections, hemi-lateral or transverse, or both combined, in the spinal cord of guinea-pigs, and by injury of certain nerves and the encephalon itself. He thus obtained at the end of four or five weeks such hyper-excitability in the animal operated on, that the least cause of irritation affecting principally certain regions which he designated epileptogenous zones (as, for instance, the territory occupied by the terminal expansion of the tri-facial nerve), sufficed to provoke convulsions, generally limited, partial, tardy, and presenting a great similarity to that kind of rudi-

mentary epilepsy which we have called *auto-motor petit mal*. Little by little this epilepsy would become general.

An example not less interesting of experimental epilepsy has been obtained by Vulpian, as the result of excitation or lesion of the sciatic nerves. Later, Westphal acted on the entire encephalon in guinea-pigs by smiting their heads with repeated blows of a club. He observed several weeks after, all the phenomena of epilepsy.

What took place in these divers experiments? Were serious cerebral or bulbar lesions produced? The necropsy proved to Westphal that in one case there existed in the spinal cord trifling effusions of blood, which, however, did not explain the fits. In all the other cases there was no lesion. We may say then that there was produced nothing but an exaggeration of the excito-motor function of the encephalon, or rather of the encephalic organ, the most endowed with this reflex power—the medulla oblongata. The experimenter had created either indirectly by the cord or peripheral nerves, or directly by the cerebrum, a persistent disease, slow to produce, characterized by extreme sensibility of the reflex properties. This is true epilepsy, partial or general. What proves this is that this acquired epilepsy may be transmitted by heredity, as Brown-Séquard has shown. But what do we see in the case of man? The transmission, evident but limited, of epilepsy itself from parents or from grandparents. Comprehended in this way, the direct or even collateral inheritance is far from being as frequent as has often been asserted. The most careful observers have noted it only in minimum proportions. Leuret admits but one case in six or seven of direct inheritance. Lasègne gives but three per cent. By researches of the most precise character, I have attained nearly the same results, or about five per cent. We are far then from having obtained the startling figures indicated by the greater part of writers, and the reason is very simple. They claim that epilepsy in its quality of *neurosis* may be derived from any other neurosis, and even from any cerebro-spinal lesion. Reckoning in this way, they have made out fifty per cent. of cases of hereditary epilepsy. But is it not absurd to admit into the number of the causes of hereditary epilepsy, migraine, neuralgia, hypochondria? It suffices that a member of the family shall have been migrainous, melancholic, hysterical, or even that a brother or sister shall have succumbed to cerebral hemorrhage, or to an embolism, which you know to be a vascular or cardiac lesion, to justify the affirmation of the hereditary origin of the epilepsy. Such a supposition is not allowable. Epilepsy demands for its production a reflex hyper-excitability, inherited or acquired, and from this point of view only epilepsy can engender epilepsy.

This reflex hyper-excitability, transmitted or acquired, being granted, we are now concerned with knowing by what organ this exaggeration of function is exercised. This is the point anatomically elucidated by Schroeder, Van der Kolk, and experimentally by Nothnagel.

Theoretically, one would be led to consider the grand crises as the result of excitation of the great basal-encephalic centres—medulla and pons. The bulb contains, in fact, the ganglia of the principal motor-cranial nerves, hypoglossal, facial, masticatory, oculo-motor and pneumogastric; it is moreover the place of transit of the columns of the spinal cord. Nothnagel demonstrated in the hare a convulsive centre situated by the side of the calamus scriptorus, and whose excitation is followed by convulsions, general, bi-lateral, with loss of consciousness; this is a perfect representation of the attack of epilepsy major.

But even from this point of view, one has the right to ask if it is to direct excitation of this convulsive centre that the convulsive movements are due, or if they may not be the result of the troubles of the circulation produced by the excitation of the vaso-motor centre, which has its seat in the bulb itself? In this case bulbar epilepsy will be confounded with vaso-motor epilepsy.

Vaso-Motor Epilepsy—Cerebral Anæmia or Hyperæmia.

The bulb contains, besides the principal cranial nerves, the chief vaso-motor centre which innervates the greater part of the blood-vessels, especially those which are destined to the bulb itself, to the base of the cranium, and nerves distributed to the surface of the encephalon. If the vaso-motor nerves are excited, the encephalic vessels contract and shut off blood from the cerebral nerve centres. This anæmia may be produced easily by experimentation. If you tie the carotid in the hare, there results cerebral anæmia with vertigo; if, moreover, you electrize the superior portion of the cervical sympathetic on the other side, and by this means cause contraction of the encephalic vessels, the cerebral anæmia is complete, and there results a convulsive attack.

This is the celebrated theory of Kussman and Tenner, who also produced cerebral anæmia by means of large hemorrhages, and in this way obtained vertigo, or convulsions.

In man, the anæmia of the encephalon has been attributed to excitation of the vaso-constrictor nerves, and in support of this was adduced the initial pallor of the fit, resulting from contractions of the blood-vessels of the face.

But there are grave objections against this doctrine of cerebral ischæmia. When you produce artificial epilepsy by another process, as by poisoning with absinthe (as well studied by Magnan), you find the cerebrum congested in the animal intoxicated by it.

Moreover, in a man who is having an epileptic fit, you may judge of the state of the brain by the manifest congestion of the eye. In fine, you will find at the autopsy of old epileptic patients, hyperæmias, or rather vascular dilatations in the bulb, sometimes near the origin of the hypoglossal nerves and fifth nerves, sometimes congestions near the origin of the vagi, in individuals who died of dyspnœa during the fit. It is also without doubt to this hyperæmia of the nucleus of the pneumogastric that we are to attribute the excitation of this nerve, at the end of the fit—that is to say the slowing of the pulse indicated by Magnan. There is a final argument which may be alleged in support of the doctrine of cerebral hyperæmia, a phenomenon observed by Charcot and Bourneville. They noted during the so-called sub-intrant attacks of the *status epilepticus*, a certain degree of hyperthermia or excess of heat

production, which distinguishes these attacks from fits of hysteria. Now this excessive heat production is incompatible with cerebral anæmia—only over activity of the encephalon, by or with exaggerated afflux of blood, can explain the hypothermia.

We are now concerned with knowing how the dilatation of the blood-vessels is brought about. It cannot be the result of paralysis or even of fatigue of the vaso-constrictor nerves. It depends on the function of another kind of vaso-motor nerves, which have an office antagonistic to the preceding. Indicated by Schiff, Loven, thoroughly studied by Claude Bernard, by Vulpian, and quite recently by Dastre and Moret, these vaso-dilator nerves also take their origin in the bulb. It is by their excitation that we explain the hyperæmia which succeeds the anæmia of the encephalon and of the bulb, and which is capable of itself of engendering convulsive phenomena, although in a less degree than cerebral oligæmia. We can by this alternation of anæmia and of hyperæmia, by the successive excitations of the constrictor vaso-motor nerves, and of the vaso-dilators, easily explain the development of the great crisis, that is to say, the attacks of grand mal. We can say then that vaso-motor bulbar epilepsy represents from all points the paroxysm of epilepsy major. It remains to be seen if this theory is applicable to other forms of epilepsy, and to examine the part which the cortex cerebri plays in their production.

Cortico-Cerebral Epilepsy.

All the facts of experimentation and of the clinic tend more and more to show that the point of departure of certain epileptic convulsions is in the cortical substance of the cerebrum. The rudimentary forms of epilepsy always associated with psychical troubles, the analogy of epileptic fits with convulsive phenomena, arising from alterations of cortex—in fine the extension, the generalization of convulsions, at first localized to other muscular groups, goes to prove their origin in the cortical motor centres. Experimentation is decisive on this point. The inexcitability of the cerebrum was considered from the time of Galen to Haller and Longet, as a dogma in physiology, when in 1870, Fritsch and Hitzig demonstrated that there were in the cerebrum excitable convolutions, constituting centres of movements which disappear by extirpation of the gray substance of the motor centres. Ferrier confirmed these facts, which were verified by Albertoni and Luciani. Charles Richet was the first to recognize in this excitability of the cortex a special characteristic. He found that in order to obtain convulsions it was necessary not to excite violently, but to employ moderate repeated excitations, which, as it were, by accumulation of effect, gradually bring about an explosive condition of the cerebral cells.

Franck and Petres on their part have furnished another datum, no less important, namely: besides the slowness of transmission of the excitations, their retention by the cortical gray substance, which maintains the impression far longer than the white substance, which is only a conducting medium.

There is in the cortex a special convulsive power, a form of reaction proper to it, which is the distinctive mark of the cerebral excitability.

Several experimenters, especially Boubenof and Heidenbain, acknowledged the reality of these facts, which were differently interpreted by Rochefontaine and others, who oppose the theory of cerebral localizations.

There are, in fact, departments of the cortex cerebri which preside over voluntary movements, whose destruction causes paralysis, as has been proved by Charcot and Petres, and whose excitation produces motor phenomena often sufficiently pronounced to give a complete representation of epilepsy; electrical excitations of the cortical substance near the fissure of Rolando have, even in the human subject, as shown by Bartholow in the case of a wounded patient of his, provoked epileptiform fits. It is for this reason that Hughlings Jackson has designated the cortex cerebri as the point of departure of epilepsy and epileptoid accidents, just as Schroeder, Van der Kolk, and Nothnagel, have attributed the epileptic paroxysm to irritation and hyper-excitability of a special convulsive centre in the medulla oblongata.

In epilepsy, called partial or cortical epilepsy, the convulsions are generally limited to a determinate region, but in other cases they attain the whole of one-half of the body, eventually to be transformed into general convulsions, as has been proved by some brilliant recent experiments of Unverricht.

If to these convulsions there should soon be added another symptom of partial epilepsy, namely, a paralysis or paretic state, you may, according to Charcot, admit with certainty a circumscribed lesion of the motor-zone, or of the part immediately contiguous.

Differences Between Cortical and Bulbar Epilepsy.

If you consider the relations between cortical epilepsy and true or bulbar epilepsy, the first thing that will strike your observation is that the one passes into the other, and that there are numerous intermediate degrees. When you see the convulsions, after having been local, become general, you are tempted to regard them all as of the same mechanism and of cortical origin, as Hughlings Jackson teaches; and we are far from the opinion (as you see) that cortical epilepsy is an encephalic irritation which acts on the bulb and pons in a reflex manner so as to provoke in the convulsive centre general convulsions. (Nothnagel's view). This type of cortical epilepsies applies especially to the partial epilepsies, the rudimentary epilepsies, such as epileptic vertigo, "absence," the psychical troubles which are interchangeable with the fits; all this is explained by the irritation of the cortical substance, which alone can by extension of this irritation, and by the multiplicity of the functions of the cortex, produce forms of the disease so varied in their nature and manifestations. Everything goes to prove this; first, the observations of Fritsch, who has seen irritation of the cortex produce general, as well as partial convulsions; the facts of Bernhardt, which prove that tumors of the convex surface are quite certain directly to bring about epileptic paroxysms; perhaps, also, the experiments of Westphal, who caused fits in his guinea-pigs

after blows of a hammer over the cortical regions; in fine, the observations of Kussmaul and Tenner, who by producing artificial ischæmia were able to affirm that circumscribed lesions of the bulb cannot engender all the phenomena of epilepsy; and it must be understood that the coma supposes necessarily the participation of the convolutions themselves. As for the auras, vaso-motor, sensorial, psychical, secretory, it is still more difficult to refer them to the functional disturbance of a little corner of the bulb.

Epilepsy, then, presents itself, as it were, abbreviated and shorn of its puzzling complications in these cortical convulsive manifestations. Partial epilepsy corresponds then to certain anatomical and symptomatic data, clearly determined: the term central epilepsy is more comprehensive, and applies to a great number of cases, such as we have above alluded to.

Résumé.—The condition of permanent excito-motor hyper-excitability was clearly established by the first experimenters. When the cerebral system comes under the persistent influence of a lesion of the spinal cord, of certain nerves, or of the encephalon, the medulla-oblongata becomes the seat of a functional modification, that is to say, an aggravation of its reflex power, which makes the organ a prey to the least excitations; the bulb can itself engender convulsive attacks without the least exterior determining cause. Here we have the first theory. The acquired property of the bulb extends naturally to the vaso-motor centre in the bulb; the excitation of the vaso-constrictor, then of the vaso-dilator nerves, determines anæmia, then hyperæmia of the encephalon, and we have the *grand mal* attack with loss of consciousness; the vaso-motor theory is only applicable to the grand mal—this is bulbar epilepsy, or bulbo-vascular epilepsy.

The new conception of excitation of the psycho-motor centres, applies to all the other cases, to all the forms of petit mal, *i. e.*, vertigines, absences, "petit mal auto-motor," which is a psychical trouble with unconscious movements. It is especially applicable to partial epilepsy, when the motor centres are affected; in fine, it is applicable to the psychical troubles which characterize epileptic insanity. An excitation limited to the frontal lobes gives rise only to intellectual troubles; such excitation determines simply, troubles of motility, when it is located in the front parietal convolutions, or the ascending parietal or the para-central lobule, which constitute the motor zone. If, in fine, the electric excitation of the cerebral cortex is produced further back in the hemispheres, on the parietal lobes, the angular gyrus, the occipital lobe, or on the tempero-sphenoidal convolutions, it gives rise, as Franck and Petres have shown, to hallucinations of taste, of hearing, of sight, of smell, or to troubles of the general sensibility which constitute in the majority of cases the auras of common sensation or of special sense which one may consider rather as the first manifestations of the grand or petit mal, than as prodromes capable of being arrested.

—In the *American Journal of Obstetrics*, September, 1884, Dr. Theodore A. McGraw reports a case of vicarious menstruation from an ovariotomy scar.

Medical Societies.

CHICAGO MEDICAL SOCIETY.

(*Concluded from page* 406.)

While it must be admitted that the knowledge of the cholera is very imperfect, it may yet be of interest and profit to frame some theory of the disease which shall conform to every known fact regarding it, and which may offer explanations of the phenomena of the disorder as satisfactory as the limited knowlege of such subjects will in the present state of science admit of. Such a theory is of value, if simply as a framework which may hold together in an apparently perfect order and relation a large number of fragmentary facts which might be lost to the mind if allowed to lie detached and disconnected. * * * The writer accordingly has conceived such a theory of the disease, taking occasion to follow the method of induction so far as to erect the theory upon a trestle-work of facts, assumed to be analogous, drawn from other departments of observation. * * * Events are occurring about us similar in many particulars, to the rise and spread of epidemic diseases. One of the most striking of these, perhaps, is the prevalence of that plague to vegetation—the army worm. The laws of this pest have something in common with those of cholera. Thus the cause of the army worm is always present in, and indigenous to, certain localities favorable to its development, life, and modes of propagation. Appearing yearly in these habitats, it spreads occasionally, and with some show of periodicity, over extents of territory far beyond its normal limits; and these periodic irruptions frequently cover vast areas of territory, carrying devastation over continents. In this march outward from the nidus of development, pushing onward and further onward, by some regular, yet occasionally interrupted stages, the army worm resembles an epidemic of disease in its mode of approach to a place, its gradual attainment of an acme of destructiveness, and final abatement. Thus the army worm millers indigenous to certain marshy lands of the South, in the year 1861, sallied from their haunts in illimitable swarms, and deposited their eggs in suitable places and at a suitable period of the growth of early vegetation in every county from the Gulf to the lakes. These eggs lie dormant until stimulated by the warm weather. Then, apparently starting from its habitat at the southward, began the northward march of the army worm which overran the country. It was because of the fact of the apparent onward march of the countless hosts of these invaders that they received the suggestive name of the "army worm." And yet their march was only apparent. They moved only from field to field, as other insects, for the purpose of forage. They advanced northward only as the peach blossom advances northward; their march kept pace with the increment of heat of the advancing season necessary for development of the long-deposited egg. The line of their advance was an isothermal one. Thus, the worms, keeping pace with vegetation, appearing when the winter wheat was "in the milk," advanced toward the north slowly, so that they appeared in Maine two months

after they were first seen in Missouri. After several weeks the destroying agents disappeared. They had not moved on to other conquests, as people supposed, but the worm, disappearing under the sod, had become a chrysalis, which in a few weeks emitted the miller, which deposited its eggs, and thus completed the cycle of the insect's life.

In the above reference to the army worm invasion, it was assumed by some that the whole field devastated had been sown with the germ of the plague the previous season. Observation of the insect indicated, however, that it passed through its phases within a few weeks: and it is probable that the visitation was not thus sown broadcast and at one time; but that the invasion was by gradual encroachments of successive "crops" of the worm, so that the insects marching northward into Michigan were not "cotemporaries," but descendants by several removes, of those which, weeks before, invaded Southern Illinois. Thus a brood of worms, disappearing in the northern counties of Mississippi, as chrysalides, were represented in a few weeks in Middle Tennessee by millers attracted northward in search of early vegetation suitable as nidi for their eggs. The crop of moths from these eggs would in turn deposit their ova in Kentucky; and so the advance northward would be effected, not by the worms, but by that element or insect, floating in the air and endowed with power of swift flight, and with selective instinct. In regard to the continuance of the recurrence of these insects, it is essential that the several elements find suitable resting surfaces and conditions (of temperature, moisture, etc.,) and in the lack of these the element may perish, or may remain inactive for an indefinite period, till conditions occur requisite to arouse it to development. Thus in the latitude of St. Louis, with favorable conditions, two or three broods of the worm were hatched in one season, while in Maine a second brood did not appear. Injury to the crops, wrought by secondary broods in one locality, was comparatively limited. The new worms were preyed upon largely by enemies now come into the field, and material suitable for their sustenance was scarce—in good measure exhausted by the depredations of their predecessors. Finally, the miller of the army worm "winters over," and deposits its eggs at the appearance of vegetation in the spring. By accident, or design, the insect in any of its phases could be transported to any distance; and as a miller, it might be readily carried by the wind.

Dr. Koch, the noted microscopical investigator of the causes of disease, believes that he has discovered the actual entity producing the cholera in a fungoid cell—the "comma bacillus." As yet, no more is known of this bacillus than its bare existence. It has a natural history, but the laws of its development and changing growth are yet to be learned. In the absence of such knowlege we may assume that it has certain phases of development, as the army worm has, and that in each one of these it presents different potentialities. In relation to certain fungoid cells, the fact of such phases of existence is ascertained; and from analogy, it may be inferred that the comma bacillus, after a period of active growth, develops into an apparently lifeless formed material—a crystalline substance—bearing, for illustration, as the writer stated, the same relation to the cell as coral does to the insect which forms it. The crystalline substance is not dead, but living matter, and after a period of passivity, under favoring circumstances, it puts forth buds which presently burst and emit into surrounding media a protoplasmic fluid, in which in time are developed the cells, thus completing the cycle of changes in the life of the plant. The peculiarities of the several elements may be thus stated: The crystalline substance, we may suppose, is in the form of dust, granules, or threads, not an impalpable something, but a material which may be seen by the naked eye and handled by the fingers. Under the microscope it may be seen to form an aggregation and concretion of cells. From it buds sprouting emit what may be compared to the contents of an egg—a protoplasm, an apparently homogeneous aqueous fluid, in which presently begin to appear dim outlines of cells that gradually grow in size and increase indefinitely, not from cell division, but from the development of a cell from every atom of the protoplasm. The power of this fluid is only exhausted when its ultimate atom has become a cell. The characters of the protoplasm prior to the development of cells would probably elude all efforts at recognition, so that fluids and tissues of a body containing it might be examined with the highest powers of the microscope without the detection of any organic particles.

All parts of the cholera fungus, then, are portable—all are tangible, visible entities, except the infinitely minute atoms of cells in the protoplasm.

The entrance of this fluid into the economy impregnates the system with the ultimate germ of the cells, which, under favoring circumstances, develops at the expense of the blood and produces the symptoms known as cholera.

The seeds of the disease are brought in the course of travel to a locality as crystalline substance, cholera dust, or of protoplasm diffused in the moisture of the air or water, or in the fluids of the human body, in the form of cells. Under favoring conditions, these elements proceed to perform each its part in nature, so that sooner or later after finding a resting-place in a community, they develop protoplasmic fluid, which, disseminated by the law of diffusion of fluids in the air and water, or resting as the dew upon articles of food, finds its way into the body. The atoms of this poison, infinite in number and pervading large areas of space, are received into the system of all, as is the pernicious miasm of the marshes. The blood, acting as other fluids have been observed to conduct when impregnated with fungi, resists the changes which it is the destiny of the foreign agents to effect, until the number of the invaders, or some change in the vitality or chemistry of the impregnated fluid, makes longer resistance impossible, and the explosion of the disease like a paroxysm of pernicious fever results. The ejecta from the first cases, filled as they are with cholera cells, find their way generally to a favoring soil, and develop within a few hours succeeding phases of the fungus. Thus crop after crop of cholera atoms are begotten in a prodigiously increasing progression, to extend the area of infection and increase the malignancy of the disease. It may happen that the germs of cholera introduced into a locality find circum-

stances unfavorable for their development at the time, and although the seed of the disease may be pretty generally sown, they lie dormant for a season.

There are certain known facts regarding the cholera which at least lend plausibility to the theory that the germ may be implanted in a district long in advance of the actual appearance of the disease: such certainly is the case where the cholera "winters over," as it is said—lies inactive, it may be, through the fall, winter, and spring, to arise into activity the following summer.

It has long been noticed that an epidemic of cholera is often preceded for weeks by the influenza, and a marked and general tendency to diarrhœa. The reasonable assumption that both the forerunning ailments and the succeeding disease were the effects of a common cause, would imply the presence of the germ of cholera in a locality long before the actual outbreak of the epidemic.

The march of the pestilence, though generally in the track of travel, is sometimes singularly abnormal as to this law. The cholera sometimes springs up in places far out of the line of apparent exposure. These variations and exceptions to the general law of portability of the disease suggest a possibility of the truth of the theory that it may be primarily sown as a temporarily inactive dust, as well as implanted as a speedily-developing protoplasm. It may be, that in attempting to trace the origin of the disease, by noting in any locality the first case, we err in this, that we compare the course of the epidemic with the line of travel in the presence of the attack, when possibly it is the course of the traveler from the infected district of last year to which attention should be given. The irregularity as to the time and place of appearance may be further referred to the varying soil and temperature of the respective localities considered as developing agents of the deposited germ.

It will be noted that there have been here set forth two theories as to the mode of advance of cholera—the one, that it advances in successive crops from a first or isolated case; the other, that the seed are sown broadcast over the countries elected for visitation, and that these are developed when and as favorable conditions arise. The number of cycles which the cholera germ may undergo in a season may vary with the locality, temperature, etc., conditions which determine the severity of the epidemic and the length of its stay in a place; thus at St. Louis the number of ite cycles might be three-fold greater than at Bangor. And a variation in the time of the cycle, also, might influence the rate of advance of the disease.

Changes in the blood effected by the protoplasmic atoms in their act of development into cells alone produce the cholera; the presence of cells which have already completed their growth, or the material formed from them, cholera-dust, does not directly induce the disease. Thus rice water discharges abounding with comma bacillus may be drunk without injury. The subsequent deposit of these cells in the ejecta of the experimenter may however lead to an outbreak of the disease, of which he may prove the first victim.

One of the most singular laws of cholera is this, that with rare exceptions it marches *onward*. It remains active in a place a number of weeks, and subsides, and the places next attacked are *beyond*, relatively to the starting-point, the district last devastated. In reference to the army-worm this also is a fact, and in regard to the march of the insect we can plainly discern the laws—and that, whether it be held that the eggs have been all deposited by the same army of moths, or by successive broods of them. In the one case we may suppose the millers, finding the fields of favorable deposit pre-empted, pass onward to unoccupied territory. In the other, because of the devastation made by the preceding generation, the millers of the present must instinctively move onward in search of proper resting-places for their eggs.

Now, as the army worm moves onward by instinctive selection, may it not be possible that the cholera fungus advances by a vis-a-fronte—a species of chemico-vital affinity—a diffusion in the direction of affinities not yet exhausted?—just as the small-pox virus dwells in a community till its affinities for all are expended, and then moves onward in the direction of the unprotected.

To the student of cholera, the parallel furnished by the army worm, as to the convection of its elements and the possibilities and proper times and methods of quarantining against them, are suggestive.

Means by which man might stamp out, or keep out, the myriads of army worms which sometimes in a few hours filled to the brim the cordon of ditches plowed about the grain fields, and changed in an equally short time flourishing acres of wheat into a "marble ground," can hardly be devised. Plans by which he might unearth and devitalize chrysalides planted under every sod from Georgia to Maine are difficult to imagine. Methods by which he might successfully contend against the innumerable moths filling the air, might discover and destroy the numberless eggs deposited in every meadow on the continent, are inconceivable.

* * * * * * *

How infinitely more difficult to avoid or to antagonize are the minute cells, the every way and every where portable dust, and the invisible, intangible, miasmatic atoms of the cholera. * * * And yet the farmers actually did antagonize their protean plague in all its phases, and with a fair measure of success. They quarantined against the ever-coming and ever-increasing countless millions of worms. They energetically and persistently worked to keep off from the yet uninvaded fields, by means of a cordon, mechanical and chemical, all possible insects—they plowed under and deeply buried, in order to destroy the chrysalides known to have formed; they attempted to entrap and destroy the millers by cordons of lights, and they burned the grass where the eggs were deposited. * * * * The principles of quarantine against the cholera suggested by the theory of the disease here presented, may be summed up in the following propositions:

1. Elements of the disease known to exist may be isolated or destroyed.

2. Places suitable for the development of the elements may be rendered unsuitable.

3. Ingesta, possibly contaminated by the cholera poison, may be avoided.

4. Badly infected districts may be evacuated.

According to this theory, during an epidemic the poison lurks in every individual. In the blood of an exposed person are two contending forces: the one the resistance of the vital fluids to the changes attempted to be made by the invading atoms; the other the efforts of the latter to appropriate from the blood materials for their own growth.

One of the first evidences of the yielding of the forces contending for integrity of the blood is loss of serum. The one important event in the chemical change in the blood necessary to give the victory to the ferment (invading atoms) is loss of its serum. Speaking figuratively, serum is the essential ally of the blood in its resistance to the invaders. Ejection of ever so little of this tends to render the ejection of other portions easier, and to give the final victory to the poison.

Now, while no prophylactic measures are known, it is most fortunate for mankind that remedies are at hand which, if applied in season, may, unless the assault of the ferment be overwhelming, arrest the flow of serum and reinforce the blood in its resistance to the infection.

Even when the cholera has held full sway—when it has run its course without interference—it is not necessarily fatal:—either because the dose of the poison has been insufficient to destroy, or because in some life may continue after the virus has done its worst.

The secondary reactionary conditions, following the collapse known as the typhoid state, are complicated phenomena. They are expressions of the efforts of the system in its struggles with the resultants of the cholera paroxysm, rather than a proper stage of the disease. They bear a relation to cholera which may be compared to that which surgical fever brings to injuries which caused it.

This theory of the presence of the germ of disease in the system of all, involves the recognition of the principle of acclimatization in this disorder. One may become by gradual inurement habituated to the presence of the virus, and perhaps the majority so inured are competent to resist it. As in yellow fever, however, the acclimation may be speedily lost. Persons whose systems have not thus become acclimated to the poison may be, upon sudden exposure, stricken down with violence.

This valuable paper, abounding with euphony, provoked much discussion and inquiry, but which for the want of space we are obliged to omit at this time.

LISTON H. MONTGOMERY, M. D., *Secretary.*

EDITORIAL DEPARTMENT.

PERISCOPE.

Successful Arrest of Tubal Pregnancy by Galvanism.

Dr. Paul F. Mundé reports this case in the *Medical Record*, September 27, 1884:

Instances of extra-uterine pregnancy observed at so early a period as to admit not only of a certain diagnosis, but of their successful treatment, are not so common, but that, as yet, each additional case presents features of interest sufficient to warrant placing it on record. Of late, two cases have been reported by Veith, of Berlin, of successful removal by laparotomy of the whole sac in tubal pregnancy, in the first case the diagnosis being obscure, in the second case clearly made before the operation was decided upon. It is possible that at some future time the details of laparotomy may be so simplified that a fatal termination is a rare exception; but at the present day, in spite of Tait's wonderful results, the fact remains undisputed that every patient whose abdominal cavity is opened incurs the risk of losing her life. So long as that is the case, the majority of operators will hesitate before performing a dangerous operation, when the same result can be obtained, at least so far as a continuance of the gestation is concerned, by an entirely harmless and simple process. Whether now this process, the passage of an electric current through the gestation-sac, is so entirely harmless, and whether it can be relied upon always to arrest the growth of the ovum and its envelopes, and finally whether the ovum so arrested is a safe thing to have in the abdominal cavity *ad indefinitum*, these are points which only additional observations will decide. As a contribution to the settlement of these questions, the following case is reported:

Mrs P. A——, thirty-eight years of age, mother of one child eight years of age, one miscarriage six years previously, consulted me February 6, 1884, in order to ascertain whether she was pregnant. She stated that she had last menstruated during the last week of November, 1883, that she had had connection immediately after the cessation of the flow, December 1, and not since, as she soon began to feel nauseated, and being afraid of becoming pregnant, had avoided intercourse. Her next menstrual period, due about Christmas, passed without a show, but early in January there was some bloody discharge, although much less than usual. She also began to feel colicky pains in the lower part of the abdomen, which, together with the nausea, persisted until I saw her, and were gradually growing worse. She said that her appetite was good, but that she invariably vomited soon after eating. Morning-sickness was not specially marked. When she came to me she had just had a second scanty show of blood. For several days the abdominal pain had produced some faintness, and her weakness had increased considerably. She was a tall, graceful woman, rather thin and pale, and bore traces of suffering in her face. A vaginal examination showed the uterus pushed somewhat to the left side, but slightly, if any, enlarged, and in the right half of the pelvic cavity an oblong, irregular, deeply fluctuating mass of the size of a goose's egg, which could be slightly

moved about, causing the uterus to move with it. Bimanual palpation of this mass caused intense pain, and brought on faintness and the colicky, cramp-like pains of which the patient had complained. Large vessels could be felt pulsating through the right vaginal pouch. Feeling confident that the uterus was empty, for it certainly was not enlarged to the size of a two months' pregnancy, I introduced the sound, and it entered toward the left to a depth of three inches. My already formed diagnosis of tubal pregnancy was confirmed by the appearance of the areolæ, and the oozing of colostrum from the nipples on pressure, certainly unusual except as a sign of pregnancy in a woman who had not been pregnant for six years. The breasts were not enlarged, however, although the lady said that they felt rather fuller than usual.

I explained to the patient and her husband what I thought to be the trouble, and the danger of allowing the pregnancy to proceed, and the hope I had of checking its growth by the electric current. But in order to share the responsibility, and as a guarantee of the correctness of the diagnosis, I proposed a consultation with Dr. Thomas Addis Emmet, which was readily agreed to. He saw the patient at his office the next day in my presence, and without giving him my diagnosis, which I told him I had formed the day before, he at once pronounced it to be a pregnancy in the right tube, and advised the galvanic current.

The patient had already felt considerably prostrated before going to Dr. Emmet, where she was obliged to ride in a carriage, although perfectly able to come to me the day before in the horse-cars, and after his examination she had so much pain that I prescribed a morphine suppository, to be taken as soon as she reached home. Fearing that delay might result in a rupture of the sac, I arranged to go to her residence that afternoon with my battery and pass a current through the mass. Accordingly I went there at 4 p. m., and found the lady so much prostrated, that her husband met me at the door with the words, "I fear, doctor, you cannot do anything to-day." But the danger of rupture was so vivid before my mind, that I preferred to run the risk of producing that rupture by the electricity, rather than what seemed to me the greater risk of allowing the sac to grow even twenty-four hours longer. Placing a leather-covered button electrode in the rectum, and the other pole by a flat sponge on the abdomen over the mass, I passed the current of my newly-filled galvanic battery through the sac, gradually increasing its strength to twenty-four cells, and rapidly breaking the current a dozen times or more. The sitting lasted about ten minutes, and the shocks were quite painful. I did not think this current too strong, for I remembered that in one of the successful cases reported, McBurney's thirty-six cells had been used. I left the patient fairly comfortable, no more prostrated than before the application.

Early the next morning I was called, and when I arrived I learned that the lady, whose nausea and retching had continued all night, had sat up in bed toward morning to vomit, had been seized by a violent pain in the abdomen, and had fallen back in a faint. I found her perfectly conscious, but white as a sheet, with pinched, clammy features, absolutely pulseless at either wrist, skin cool, extremities cold. I naturally thought that the sac had ruptured; the history and present condition clearly pointed to that conclusion. One thing only led me to doubt a rupture, and that was the strength with which the patient could turn about in bed and answer questions. It was evidently a state of collapse, but it did not seem to me exactly like prostration from hemorrhage. I could not but hope that it might be merely shock from the repeated examinations and the galvanic current through so sensitive an organ as an overdistended tube. I made a gentle vaginal examination, and found the outline of the mass as distinct as the day before. In any case, the only active measure, laparotomy, could not be carried out on a patient in so profound a state of collapse as to be pulseless at the wrists; she must simply have died on the table. Hence, if there was a rupture, all I could do was to stimulate her until she rallied sufficiently to justify laparotomy; and if there was no rupture, then that operation was not indicated. I therefore ordered hypodermics of brandy, each containing five minims of arom. spir. ammonia, one to be given every fifteen minutes in different parts of the body (the patient's stomach would retain absolutely nothing), sent for a nurse, and went home for my laparotomy instruments, in case at any moment they should be required. The physician who was hurriedly called in, and whom I found at the bedside when I arrived, Dr. Black, of the United States Army, on leave of absence and temporarily residing in the neighborhood, kindly stayed with the patient, and was relieved later by my assistant, Dr. E. H. Grandin. On my return, several hours later, I found the condition unchanged. The hypodermics were continued during the day, some fifty in all being given.

During the afternoon, while on my way to Mount Sinai Hospital, where I was to operate, I met Dr. Charles K. Briddon in the car, and remembering his recently-reported case of laparotomy after rupture of a tubal gestation-sac, related my case to him, and the doubt I was in as to whether rupture had occurred, and whether I should operate or wait developments. He strongly advised me to operate at once in spite of the collapse, saying that his patient also was pulseless, but that after the operation her pulse rose. I decided to wait, however, still feeling that, after all, it might be nothing but shock.

The next morning there was a faint trace of pulsation at the wrist; gradually it increased, and we began to hope; the retching diminished and the patient could retain cracked ice. Her abdomen was very sore, and she complained a great deal of colicky pains on the right side. To make a long story short, she gradually rallied, began to retain nourishment, and in a week was able to sit up in bed, and in two weeks lie on a lounge. The sac had become somewhat harder, fluctuation was less distinct, pulsation had disappeared, but the mass was not perceptibly smaller. The breasts had become flabby, but they still secreted colostrum. Although there could not be any reasonable doubt of the death of the fœtus after such a series of galvanic shocks, still, to make sure, I thought it best to pass the faradic current through the sac a number of times, and

beginning on the sixteenth day after the galvanic sitting, I made six faradic applications to the sac, one pole in the vagina, the other over the mass on the abdomen, using the full strength of a Kidder tip-battery and frequently breaking the current. One sitting per day was given, lasting about fifteen minutes. This treatment caused no pain or shock whatever. From this time on the patient improved rapidly, regained her flesh and color, and by the end of the fourth week was able to go out. The colostrum gradually disappeared from the breasts, but the sac diminished very slowly, so that when I last saw her at my office, on May 19, three months and a half after the galvanic shock, it was certainly still two-thirds as large as at first, although perfectly solid. All pain in it had ceased before she was allowed to go out. Menstruation reappeared on April 12, and again on May 7, lasting seven days. The uterus was measured and found to be two and three-fourths inches deep. The lady left for Europe on May 21 in perfect health, and without a complaint of any kind, and is still abroad.

The special points of interest in this case are: first, the occurrence and recognition of the nature of the collapse after the galvanic sitting; and, second, the kind of current which should be used, the galvanic or the faradic.

1. As regards the collapse, I have no doubt that it was due to the violent galvanic shocks passed through a highly sensitive organ, at that time even more closely connected than usual with the sympathetic system, and that the previous examinations had already paved the way for such an occurrence.

The recognition of the cause of the collapse was not easy, and I confess that I expected all during that 7th of February to be called upon at any moment to do laparotomy as a last resort; But I wish again to call attention to the one symptom which led me to defer operating, and which, giving it its correct interpretation, as I chanced to do, saved the patient's life, namely, her singular physical strength, while pulseless at either wrist and evidently collapsed in the highest degree. Had I not considered this persistence of voluntary muscular power incompatible with the loss of so great an amount of blood (intra-abdominal, of course) as would produce so severe a collapse, I should probably have done what was the only other thing to do but wait, that is laparotomy, which I do not think the patient would have survived.

2. My experience with the galvanic current in this case leads me to prefer the faradic, which has been successfully used by Landis, Allen, Garrigues, and others, without any of the shock or pain experienced in my case. I do not attribute the shock entirely to the character or strength of the current, for there was undoubtedly some present before it was used, and I am disposed to believe that rupture was impending or had already begun; but I doubt if the shock would have become so severe if I had used the faradic current. But the Faradic will need to be repeated frequently and at short intervals to insure success.

Whether the encysted ovum ever gives rise to subsequent trouble by suppuration or septic infection, I do not know. As no such result has been mentioned in the reported cases, I suppose it is fair to assume that its growth once arrested, it simply shrivels, mummifies, and is no longer recognizable except as a small hard lump, causing no inconvenience whatever.

Although I have heard incidentally of one or two other unpublished cases of extra-uterine pregnancy checked by electricity, I believe this is the twelfth case on record, the eleven others having been reported by Garrigues in vol. vii. of the American Gynecological Society's Transactions.

The Treatment of Bright's Disease.

Dr. James Tyson is one of our highest authorities on all diseases of the urinary organs, hence it is important that we should be acquainted with his treatment of Bright's disease. In the course of a lecture published in the *Boston M. and S. Jour.*, August 28, 1884, he thus gives it to us:

"Next, as to *treatment*. Many cases of acute Bright's disease, if recognized early require no treatment but rest in bed and an easily assimilable diet, of which the best form is milk. Although this is true, it does not do to leave these patients unwatched, for the course of the disease is uncertain; and, as a rule, you will not rest satisfied with this treatment, although what more is done will depend to a great degree upon the urgency of the symptoms. We wish to keep the kidneys acting in order to prevent the retention of urea in the blood and the consequent danger to life which arises from this accumulation. After instituting the general treatment which I have suggested, I see that the bowels are opened, for neither digitalis nor any other diuretic will act as long as the bowels are constipated. If there is costiveness, some saline laxative, as magnesia or the citrate of magnesia, or some of the natural aperient waters, should be given. After the bowels have been opened, digitalis may be given either in the form of the tincture or infusion, giving fifteen drops of the former, or a dessertspoonful of the latter, every three or four hours. If this does not produce the desired effect, I should not increase the dose of digitalis, for it is liable to derange the stomach, but I should associate with it one of the vegetable alkalies, as the acetate or the citrate of potassium.

"When admitted, this man was given one-tenth of a grain of elaterium to act upon the bowels, and afterwards received fifteen grains of acetate of potassium and a teaspoonful of the infusion of digitalis every three hours, making four or five doses in the course of the day. Under this treatment he did very well, and the œdema rapidly disappeared.

"If the treatment which I have suggested does not produce satisfactory results, and the symptoms grow worse, I sometimes use cups over the loins, relieving the renal arteries through the lumbar arteries, by the anastomosis which exists between them. After the cupping, I usually apply a corn meal or flax-seed-meal poultice, the surface of which has been sprinkled with mustard. This keeps up a permanent counter-irritation, and it often starts the secretion of urine.

"If these measures fail, free action by the skin should be promoted. This is best accomplished by jaborandi, and in this case it became neces-

sary to administer this remedy. As I have said, the patient at first did well on the use of digitalis and the acetate of potassium, but day before yesterday the resident physician found him delirious and acting in a very singular manner. On investigation it was found that although the urine was not actually suppressed he was passing a very small amount. We at once concluded that his symptoms were uræmic, and due to the retention of urea and its allies. The complication is frequently met with: a patient will be doing well, when suddenly there will appear coma, convulsions, or delirium, as we had in this patient. In addition to delirium, the man had slight convulsive seizures. We at once proceeded to treat him as we usually treat such cases in the hospital. An infusion of two drachms of jaborandi leaves in four ounces of water was made, and the whole quantity given by enema. We often make the infusion with only one drachm of jaborandi, but as the symptoms were urgent, a double quantity was used. This did not produce perspiration, and in an hour the injection was repeated. In a short time he sweat profusely. He was also given one drop of croton oil, which acted promptly. The next morning all the symptoms had disappeared and the man was entirely rational. We are not always so successful in removing the uræmic symptoms, but frequently the result is all that could be desired. In this case the dropsy was also greatly relieved by the sweating.

"The above well illustrates the usual course which is to be pursued in cases of acute Bright's disease. If the disease is promptly recognized and properly treated from the beginning, the patient generally gets well; but if overlooked, as it often is, the opportune moment may be lost never to be regained. Perhaps no disease demands for its prompt recognition and treatment a broader and more thorough medical education.

"There are modifications of the treatment I have described which are demanded by circumstances. In private practice, instead of giving jaborandi I should use the alkaloid, pilocarpin, giving the nitrate or muriate subcutaneously. The dose is from one-fourth to one-half a grain, as the urgency of the symptoms may demand. My usual custom is to give one-fourth or one-third of a grain, and if sweating does not come on within half an hour, I repeat the dose. Jaborandi not only produces sweating, but it also increases the secretion of saliva, and may induce purging. It is also a diuretic. We have in this remedy a most valuable addition to the therapeutics of Bright's disease. In order to keep up the diaphoretic action, pilocarpin may be continued in doses of one-tenth of a grain. This is readily done by the use of gelatin-coated pills. One pill may be given in the evening, or one may be given night and morning. The system rapidly becomes habituated to the use of jaborandi, and the dose has to be increased. Another good way of administering this drug is to use the inspissated juice by suppository. The fluid extract may of course be used by the mouth, but it is a less agreeable remedy.

"If jaborandi cannot be procured, there are other ways of inducing sweating which we have now almost entirely given up, although they are very efficient. Hot-air or steam-baths may be used for this purpose. In employing the hot-air bath the patient is covered with a rubber blanket, and a tube with an expanded extremity which is held over a spirit lamp is passed beneath the covering. In the steam-bath, the steam from an ordinary tea-kettle may be conducted through a piece of rubber tubing under the bed-clothing. These methods are not as promptly effectual as the administration of jaborandi, but at the same time there are circumstances when they may be required.

"There is another method of treating urgent uræmic symptoms which should be mentioned, that is, bleeding. I should not hesitate to bleed a patient suffering with uræmia if he is not relieved by the measures described. As you are aware, the uræmic symptoms are dependent upon the retention of urea and allied substances in the blood, which, when they have accumulated to a sufficient quantity, act upon the nervous system, producing delirium and convulsions, or coma. The condition is, in fact, an intoxication. If under such circumstances the patient is bled and a pint or a quart of this blood removed, some of the poisonous material is taken away, and the patient is relieved. In puerperal cases I believe that bleeding relieves not only by diminishing the vascular and nervous tension, but by removing the accumulated uræmic poison which has produced the symptoms.

"Another valuable remedy for the control of uræmic convulsions, which should not be forgotten, is chloral. So far as the relief of the convulsions goes, jaborandi is a slowly-acting remedy, because it operates by removing the poison from the blood. Something is needed to act upon the nerve-centres and obtund them, and make them less susceptible to the poisonous substance. Chloral often admirably answers this purpose. It may be given by the mouth or rectum. By enema the dose is one drachm. I have seen the convulsions stop almost instantly after such an injection.

"There is still another remedy which has been strongly urged by some, which should be used with caution, and that is morphia. It is some years now since Dr. Loomis, of New York city, advocated the hypodermic administration of one-half a grain of morphia for the relief of the convulsions in acute Bright's disease. There is no doubt that in certain chronic forms of the disease, more particularly in the contracted kidney, the effect of opium is to increase the danger of uræmia; and Dr. Loomis states explicitly that this treatment is only applicable to the acute disease. I confess to being less particular in the use of opium in chronic Bright's disease than I used to be, always excepting contracted kidney; and where other remedies fail I would use a hypodermic injection of morphia in the uræmic convulsions of Bright's disease, but I should arrange the order of remedies rather as follows: jaborandi, chloral, bleeding, morphia.

"With such measures, these cases can often be brought to a satisfactory termination; and although the appearance of uræmia is a serious sign, yet it does not necessarily follow that the patient will die, and recovery therefrom in acute cases is not uncommon. Uræmic convulsions in chronic Bright's disease is a far more serious condition."

Cranial Bones of a Fœtus Removed from the Rectum.

Dr. O. W. Doe reports this case in the *Boston M. and S. Jour.*, September 18, 1884:

E. W., colored, widow, fifty-two years of age, entered the City Hospital on April 8 last, complaining only of diarrhœa. Her discharges averaged about seven in number daily, and were very thin and often slightly bloody. Under the use of astringents she had but one daily, and after having been kept in bed for two weeks, she was allowed to sit up. On doing so, she stated that a very full watery discharge from the rectum took place, and she had no voluntary control of the sphincter. The nurse, was directed to give a laudanum injection, but found it impossible to introduce the syringe, as it seemed to impinge against a hard substance just inside the anus. My assistant, Dr. Welch, was called, and found that the obstruction was caused by a collection of small bones, one of which was removed and found to be the left temporal bone of a fœtus. By questioning her closely, the following history was obtained, though she seemed somewhat unreliable in respect to dates:

She had borne three children, the last thirteen years ago: her labors were not difficult. Ten years ago she had a miscarriage when about four months pregnant; but as the only thing that came away resembled a piece of liver, she was not sure it was a miscarriage. Since then her catamenia have been regular, until their cessation about five years ago. About six months ago something rather hard about the size of an orange passed through the rectum. Since then she has had a diarrhœa, the discharges at first being accompanied with pain and containing crumbly matter. The dejections during the last two months have occurred sometimes as often as every fifteen minutes, and frequently have taken place involuntarily during sleep: they were very much less frequent when the patient was in bed. During the past two months there has been considerable abdominal pain and rectal pain, which would be relieved by defecation. The day before entering the hospital she passed two pieces of bone from the rectum; one resembling half a wish-bone, and the other the upper part of a chicken's leg. When the patient first entered the hospital, examination of the abdomen revealed nothing abnormal. There was some emaciation, but not as much as one should expect to arise from a diarrhœa of six months' duration. On the day when she had the large involuntary discharge, on sitting up there were noticed hard masses in the left inguinal region, which moved under the fingers, and also a large tumor above the pubes, which proved to be an over-distended bladder. The patient then stated that she had passed urine only at intervals of three days during the past three months, feeling no inclination to pass it oftener. In removing the bones, four of the largest ones were found in close juxtaposition about an inch inside of the anus; they were quite freely movable, and, as the sphincter readily dilated, they were removed with but little difficulty. Three fingers could be easily introduced into the rectum, and but little, if any, laceration of the sphincter resulted. After removal of the bones near the anus, another collection was found closely imbedded together, directly underneath the promontory of the sacrum. There was much more difficulty in removing them, especially the first one, and in their removal a considerable amount of a thick cheesy deposit was noticed. The fingers could not recognize any distinct rectum, but high up seemed to enter a sac containing the bones, the walls of which seemed to be defined by a thick cretaceous deposit.

The bones were removed fifteen days ago, and since then the patient has had no unfavorable symptom. The temperature was 100° F. the day following the operation, and since then normal. She is now sitting up, and has on an average two dejections daily, lately well-formed. The sphincter shows no signs of any laceration having been produced; but the rectum is still very capacious and not easily defined, the finger apparently entering a large cavity with soft, cheesy-like walls.

Reviews and Book Notices.

Notes on Current Medical Literature.

——The St. Louis *Medical and Surgical Journal*, under the competent management of Dr. Frank M. Rumbold, is one of the best monthlies published in this country. Its pages are filled with the choicest original and selected matter, and any of our readers wishing to add a monthly to their files will do well to write to the editor and obtain a schedule of his terms and inducements.

——The first paper we have received from the Copenhagen Medical Congress in August last is one by Mr. Reginald Harrison, F. R. C. S., on the treatment of prostatic obstruction by a section of the gland. It is beautifully printed, and contains a valuable surgical suggestion.

——The reflex action of phimosis has received further confirmation and additional illustration in an essay by Dr. T. G. Comstock, of St. Louis, in a neat reprint before us. He shows its relations to hip-joint disease in a tabulated series of cases which deserve the attention of every physician.

——An obscure case of periodical painful affection in or near the liver is stated by Dr. R. H. Reed, of Mansfield, Ohio, in a reprint before us. It offers a curious subject of study.

—At a late meeting of the Paris Academy of Sciences, the president publicly congratulated M. Chevreul, the illustrious chemist, on the occasion of his *ninety-ninth* birthday. The celebrated professor, who is in the enjoyment of admirably good health, has lectured at the Museum of Natural History for the last fifty-seven years; and if, as we all hope and wish, he is spared for a few years more, he will be an authentic and splendid instance of a centenarian.

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A NEW INTERPRETATION FOR DIABETIC COMA.

Kussmaul first described the symptom-complex, which to-day is known by the name of diabetic coma, and which, according to Kussmaul, is caused by aceton or a similar substance in the blood, producing toxic symptoms. From two different sides (*Centrlb. f. d. Med. Wiss.* 32, p. 571, 1884,) cases have been published, which give a different explanation of this coma.

Dr. L. Riess has found the same mode of death and the same group of symptoms in seventeen different diseases. Amongst these were eight of anæmia (three simple, two pernicious, and three caused by hemorrhages), five cases of anæmia and cachexia complicated by Bright's disease, and four cases of cancer (stomach and liver). In all the chloride of iron reaction of the urine was wanting, uræmia was in neither present. R. believes that the coma in these cases is to be ascribed to the profound disturbance of nutrition, induced by the poor condition of the blood. Senator, who has also observed such cases, is of the opinion that in anæmia a peculiar poison develops itself, thus causing self-intoxication of the organism analogous to the action of the ptomaines. R. finally proposes the name "dyspnœic coma" for this state, and thinks that it may be produced in a double manner: either by intoxication of the organism by certain injurious substances (as in diabetes by aceton) or by poorness of the blood in red corpuscles (*Ztsch. f. Kl. Med.*, vii. Supp., p. 34). Confreres, take your choice!

Dr. M. Litten, on the other hand (*Idem.*, p. 81), has found the chloride of iron-reaction in twenty-five different diseases not diabetes. From his and the observations of other authors, it seems that this reaction may succeed in every disease, though it is a very rare occurrence in most. Relatively frequent it is in the acute exanthemata (morbilli, scarlatina), especially during the height of the eruption. In his twenty-five cases L. saw the group of symptoms, described by Kussmaul as diabetic coma, but once, viz., in that of a scarlatina patient, æt. 30; the breath as well as the urine evinced the peculiar flavor of fruit. But in five other individuals suffering from gastric dis-

turbances, accompanied by moderate fever, he noticed after a few days an intense odor of fruit in the air exhaled by them and in the urine. This odor was followed by the chloride of iron reaction of the urine and by a state of sopor (not coma), but the change in the respiration, as observed by Kussmaul, did not take place. Referring to the fact, recorded also by V. Frerichs, that the diabetic coma is not necessarily accompanied by a dyspnœic condition, L. lays stress on the otherwise great resemblance of the symptoms, and believes that they depend—as in the opinion of R. above mentioned—upon self-intoxication, the poisonous substance being developed in the alimentary canal. The substance recognized by its odor is probably the same as that indicated by the chloride of iron reaction.

We would like to recommend to future observers to determine the following: Has the quantity of aceton (or whatever the substance may be) an influence on the gravity of the symptoms? It seems to us as if this important point had not been at all considered.

THE VALUE OF VACCINATION.

That there are still intelligent people who oppose vaccination, and strive to make it appear that it is not only useless but injurious, need surprise no one acquainted with the vagaries of the human mind. For such persons, testimony is of no avail. They are not capable of seeing the conclusions of a logical train of reasoning. Facts to them are inferior in power to prejudices.

Yet there are facts which now and then are brought to one's notice, so startling in their native hideousness that it seems wrong to pass them over in silence. If it is only as a matter of medical statistics, we must print a reference to a letter from Dr. Neve, of the Mission Hospital in Cashmere, which has appeared in the *Civil and Military Gazette of Lahore.* "Thanks to the exertions of the English authorities, vaccination has been carried to some extent in that portion of India ruled by us; but in Cashmere the state of things in an entirely unprotected country was to be seen." Dr. Neve says it would be nearer the truth to say that the population is annihilated than to say that it is decimated by the scourge of small-pox. Small-pox is endemic in every village and town of Cashmere. "I recently obtained from all my hospital staff a statement of the mortality of small-pox among their immediate relatives. They represent twenty-five families, and in these 190 members were born, of whom exactly 100 died of small-pox. Two or three children have not yet been attacked; all others have had the disease." Thus, of these 190 persons, at least 95 per cent. had been attacked by small-pox, and of those 65 per cent. succumbed. "There is not much room for hoping," Dr. Neve says, "that these figures indicate any very unusual rate of mortality, and, of course, the evils inflicted by the disease are lifelong in many who survive the attack."

Such is the condition of things in a country where vaccination is not practiced, and such it was here before the discovery of Jenner. So it would be again were the crazy notions of the anti-vaccinationists to prevail—which, however, we do not greatly fear. The world may be old, but it is not that senile.

DIARRHŒA IN CHILDREN.

Children, especially during the period of second dentition, frequently suffer from a peculiar form of diarrhœa, which mainly sets in immediately after a meal. Scarcely is the meal over when these patients have to hasten to the water-closet, so urgent is the demand of nature. A careful examination, instituted by various authors, has demonstrated the fact that the emaciation usually observed in these cases is due to the want of digestion of the food. The majority of observers agree that more than nine-tenths of the nutritive material passes undigested and unabsorbed from the bowels.

Dr. M. Leer (*Lyon Méd.*, 24, 1884,) made the discovery that in almost none of these cases are any symptoms of dyspepsia noted. He concluded, therefore, that the disturbance was due to augmented peristalsis, and as this is under the in-

fluence of the par vagum, he attributed the disease to an irritated condition of the ganglion of the pneumogastric nerve. This view induced him to try bromide of potash, and in every case the administration of this drug was immediately followed by a cessation of the annoying symptom, and not only controlled the diarrhœa and the sudden desire for evacuation, but if but one or two doses too many were given, constipation at once set in.

This observation, if verified by others, would be of great value, for the complaint is not only met with in children during second dentition, but also frequently in adults, especially delicate women. Thus far the usual remedies did not seem to influence the disease, and we therefore advise our readers to give bromide of potash a trial, as, if not successful, it can surely do no harm. L. mentions no dose, but five to eight grains in children and twelve to twenty in adults should about suffice.

CAUSE OF DEATH AFTER LIGATION OF EXTERNAL PILES.

It it a well-known fact that ligation of external hemorrhoids is always accompanied by the most excruciating pains, not to be relieved by narcotics, while that of internal piles is painless. This, probably, also is the reason why so frequently trismus and general tetanus follow ligation of external hemorrhoids. There are many such cases reported in medical literature, and Dr. N. N. Snamenski (*Moskow Zeit.*, 35, 1884,) adds two cases of Prof. Sklifosowski, in one of whose cases, that of a patient æt. 32, trismus and death followed the operation on the sixth day, while in the second case the most violent pains made their appearance, though finally recovery took place. Prof. S. ligated internal piles in 39 cases, and none of these were accompanied by any pain, nor set in any complication.

Dr. S. has made a number of experiments on dogs, and found that in these the same conditions are present as in the human being, viz: the rectal mucous membrane for a short distance above, 1½ ctm. from the anus, is perfectly insensitive, while that of the last centimetre and the skin around the anus possesses an extraordinary hypersensitiveness. This agrees with the anatomical researches especially of Fellner, who has discovered that the skin near the anus and the rectal mucous membrane for about one ctm. above the orificium ani is provided with sensation by the sensory nerv. pudend. commun., while the mucous membrane of the rectum about one ctm. above the anal orifice receives only fibres of the non-sensory middle hemorrhoidal nerves.

NOTES AND COMMENTS.

Obscure Hepatic Disease.

In the *Jour. Am. Med. Ass.*, August 30, 1884, Dr. R. Harvey Reed describes a periodical painful affection, which he believes is located in the liver, its capsule, or both, or to be possibly an irritation of the capsule of Glisson.

The premonitory symptoms of this disease come on so insidiously, that the patient is scarcely aware that he is afflicted with more than a "slight colic," or a "touch of neuralgia," or "the cramps," as they will often express it, until it gradually increases in frequency and severity, and perhaps his attention is called to the fact of its periodical return every few nights, which very greatly disturbs his nocturnal rest.

He generally goes to bed feeling perfectly well, but after a few hours' sleep is awakened with burning, shooting pains in the region of the liver, which keep him awake or compel him to walk his room for an hour or so, or perhaps till morning, before it subsides.

Generally by morning, in the less advanced stages of the disease, the pain subsides and the patient feels as well as usual, and goes to his work thinking "that is all there will be of it," until in a few days he has a repetition of the same, excepting it has increased somewhat in severity, or is more prolonged than the previous attack.

Thus it creeps on gradually, until the attacks of pain become so severe as to warrant his calling a physician, who may find his patient walking the room in agony, or rolling from side to side of the bed, or sitting tailor-fashion with the arms folded across the bowels and rocking to and fro. This motion he will sometimes keep up for hours, asserting that "nothing else gives him as much relief," or "that he would die" if he he were to stop it.

Upon interrogation, it will be found that these

attacks, which at first were weeks apart, are now separated by an interval of a few days only; or perhaps they occur every night, generally coming on about the same time each night, and with but few exceptions after the patient had fallen asleep.

After the attack subsides, the patient feels somewhat exhausted, with perhaps a slight tenderness over the hepatic region, but otherwise appears to be in usually good health—so much so that he imagines every attack is certainly the last, until experience induces him to be skeptical of the most favorable symptoms.

Dr. Reed knows of no disease which is more satisfactorily influenced by a proper treatment, and also knows of none which is more tenacious when not properly treated.

The remedies which have given the most satisfactory results in this malady are alkalies combined with a bitter tonic.

The combination most frequently used is the following:

℞. Sodii bicarb., ℥iv.
Pulv. hydrastis can., ℥j.
M.
S.—Use a teaspoonful in two-thirds of a glass of water before eating.

If, however, there is a tendency to constipation, he gives:

℞. Sodii sulph., C. P., ℥v.
Hydrastia sulph., gr. v.
Aquæ, ℥iij.
Glycerine, q. s. ad., ℥iv.
M.
S.—℥j. before each meal and before retiring.

Sodii et pot. tart. combined with infusion of gentian has given good satisfaction in some cases, or a Seidlitz powder before each meal, followed with a capsule of cinchoniæ sulph. and pepsin after eating, especially if there is any complication of malaria or gastric irritation.

Recent Observations on the Rupture of Important Organs.

Dr. B. Beck reports a series of interesting cases of injury to internal organs (*Centrlbl. f. d. Med. Wissench.*, 31, '84). He first mentions those of traumatic *rupture of the bladder*. Of eleven injuries of the organ caused by a gun-shot wound, four times a perfect cure set in. In the seven other cases far-reaching interruptions of continuity occurred, as total tearing off of the neck of the bladder, injury of the rectum, comminution of the pelvic bones, etc. The evil consequences due to infiltration of the tissues by urine were not observed until the second week, and some of the patients died of them in the third. Of intra-peritoneal injuries B. has seen but one in his military hospital, for most such patients died upon the battle-field. The only cases on record, where intra-peritoneal rupture of the bladder was followed by a complete cure, is that of Walter in Pittsburg; all others reported leave a doubt concerning their diagnosis. Rupture of the bladder, without opening of the abdominal cavity, B. observed four times during the last two years. He describes one minutely, where a horse fell with its whole weight upon the abdomen of the thrown-down rider. The case ended fatally. B.'s most important conclusion from these cases is, that the fatal issue in uncomplicated rupture of the bladder is not due to septic peritonitis, but caused by intoxication, induced by the absorption of the decomposed urine infiltrating the surrounding tissues. The final symptoms indicate paralysis of the heart.

Rupture of the Liver.—An artillerist had been kicked several times in the abdomen by a horse. Within the first twenty-four hours symptoms denoting perforation of the intestines set in. But six days later wind passed by the anus, and two days afterwards normal defecation took place. Not until several days after, pain and soreness developed in the hepatic region, followed by great increase of temperature and effusion into the right pleural cavity. Exactly thirty days after the injury the purulent exudation was removed by thoracentesis, and a Nélaton's catheter introduced to act in the manner of a lever. Nevertheless, hectic fever, marastic thromboses, decubitus, secondary inflammations of left pleura and of pericardium followed, and caused the death of the patient half a year later. The post-mortem showed the evidence of a cicatrix, extending over the left lobe and Spiegel's, 4 mm. deep, 3 ctm. wide, and 3 ctm. long, while the surrounding tissues and organs, lung, pleura, intestine, peritoneum, and diaphragm explained the real cause of death, tubercular inflammation having developed and given rise to the hectic fever and the fatal issue.

Rupture of Bowels.—B. observed ten such cases during the last two years. They were caused mainly by the kicks of horses, three of them, reported in detail, ending fatally. In one the colon descendens was ruptured, the soft parts of the pelvis were injured, and the right femur and tibia broken (cause, run over); the second concerned a transverse rupture of the small intestine, followed by peritonitis (kick of a horse); and the third a circular rupture of the duodenum, and a long tear of the mesenterium (fall from a horse). The last did not die until the sixth day, of septic peritonitis.

Treatment of Puerperal Fever by Cold Baths.

This subject was discussed by Prof. Vincent, of Lyons, before the late International Medical Congress, who said:

1. That the administration of cold baths was practicable with the recently delivered attacked with puerperal fever.

2. That cold baths were free from danger in the puerperal state.

3. They had a certain and quick anti-febrile effect in the sequelæ of delivery.

4. Recovery from puerperal fever was the rule with treatment by baths of proper temperature and methodically administered.

5. Cold baths were indicated in all high temperature forms of after-complications of childbirth, the very acute peritonitis excepted. The indication for cold baths did not arise except where the fever was kept up, without notable morning remission, to about 40° Cent., when the powerlessness of quinine and diffusible stimulants in full doses had been shown, and when, in fine, the lochia were fœtid, and intra-uterine injections had been carefully tried without bringing a fall in the febrile condition.

6. Cold baths should be administered at a temperature varying from 28° to 18° Cent.; according to the fall secured by the first bath given at 28° or 30°, the temperature of the subsequent baths should be reduced. (The rule was to get with a cold or tepid bath a fall of from one to two degrees of the patient's temperature.) The method used in typhoid fever, treated by cold baths after the system of Dr. Brand, should be followed, with modifications.

7. The cold baths were repeated every three hours until the temperature had fallen to 38°, and stayed there, with only ascending oscillations of some tenths in the evening.

8. When baths of 18° or 20° Cent., repeated every three hours, night and day, did not bring about a notable reduction of temperature, a large ice-bag should be placed, in the intervals of the baths, on the abdomen of the patient.

9. Along with cold baths and ice-bags, spirits and tonics should be freely administered; the patients should be fed with liquid or semi-liquid foods, having much nutriment in a small bulk—soups, beef-tea, American broth, milk, etc.

The So-called Ovarian Pain.

Charcot first expressed the opinion that the pain so frequently met with in women in the region of the ovary was due to an affection of the ovary itself, especially if local tenderness accompanied the subjective pain. Since that time many authors have contended that such is by no means always the case, and Dr. L. Landau adds the weight of his testimony to theirs in an article published in No. 17 of the *Deutsche Med. Wochenschrift*, 1884.

Landau removed an ovarian tumor in a hysterical female. The least pressure applied to the region over the diseased organ had produced the most intense pain. But what surprised the operator was the fact that the same symptom continued without the least abatement after the removal of the ovary. Dr. Mendel also has recently reported to have met with the same kind of pain in the iliac region in hysterical men. Both authors believe the pain to be due to a central lesion, probably being a hyperæsthesia of one or more of the nerves belonging to the lumbar plexus.

During the last year a number of such cases have been reported where in women suffering from pain and local tenderness, and from hysterical seizures on pressure, the ovary of that side had been removed, but regarding the cessation of any of the foregoing symptoms, the operation had utterly been in vain. These cases teach us at least caution, for though ovariotomy is not classed today amongst the dangerous operations, still it is a procedure grave enough not to be resorted to without some certainty of relieving the real trouble. In some way or other the idea seems to have taken hold in the profession that hysterical females suffering from severe subjective pains and from intense pains and seizures on pressure of an ovary can be cured by the removal of the organ on the affected side. The cases of Landau and others are, therefore, of great value, showing that in many cases the success of this operation is exceedingly doubtful.

A Rare Monstrosity.

Dr. Zacharias, of Garnser, sent last month the following communication to the *Allg. Med. Centr. Zeit.*, 71, 1884:

Just now a female infant, born four hours ago and still living, was shown to me that possessed the following peculiar malformations:

In place of the skull are two dark blue, tense, elastic lateral bladders, which, anteriorly, are prevented from touching each other by a third, lighter-colored bladder of somewhat larger size than a thumb; all three bladders are easily movable, and end below in a common peduncle. The lateral bladders correspond to the hemispheres of the brain, and there is no doubt that the brain here lies open and unprotected, the

whole bony and membranous covering being wanting; at the basilar portion of the skull is seen only a bony ring about two ctm. in height, and the common outer integument of the body passes here at once over into the dura mater of the brain.

The eyes are prominent, as in Graves' disease; the pupils are contracted, and do not seem to respond to light.

At the lower portion of the lumbar spine, immediately above the sacrum, is a circular atrophic place in the skin of the size of a silver dollar. This place has a flesh-color, is somewhat shiny, and resembles a fine cicatrix; it lies under the normal skin, and one may easily feel through it the intact spine. On its upper part, a half circle of three ctm. long dark hair surrounds this place.

Otherwise, the infant is vigorously and symmetrically developed, but it shows signs of difficult deglutition.

Glycerine Nasal Plugs in Hay Fever.

Dr. M. D. O'Connell thus writes in the *Brit. Med. Jour.*, September 20, 1884:

"This method has, at all events, the merit of simplicity, and it is within the reach of all. I used it first on myself, not from any consideration of its therapeutical or physiological action, but because it happened to be at hand. Having employed it, and found considerable relief, it occurred to me, on considering its action, that it could be recommended, on reasonable grounds, for the treatment of hay-fever.

"This method consists in the introduction of a small piece of cotton-wool, saturated with glycerine, into each nostril. Usually, in from ten to fifteen minutes great relief is felt, but the wool should not be removed for one hour. If it be desired, one nostril may be first treated in this manner, and then the other. Reflecting as to the manner in which it acted, I remembered that the use of a glycerine-plug in gynæcology is found to be productive of much benefit. It causes a copious watery discharge, followed by subsidence of any congestion. If its local application to the vaginal mucous membrane be attended by such benefit, it is probable that it will prove equally beneficial when applied to any congested mucous membrane, whether vaginal, rectal, urethral, nasal, buccal, or conjunctival.

A Case of Tubal Pregnancy.

Dr. Henry Hun, of Albany, records in *The American Journal of Medical Sciences* for July, 1884, a case of tubal pregnancy, in which the cyst burst at about the twenty-fifth day, and the patient died. Dr. Hun obtained the specimen, and after having rendered the embryo transparent by oil of cloves, carefully studied it and made an accurate drawing of it.

In this case the ovum was in the right Fallopian tube, and its corpus luteum was in the left ovary. In a considerable number of cases of tubal pregnancy, the corpus luteum is found in the ovary of the other side, and it is very possible that this unusual origin of the ovum may be the cause of the tubal pregnancy, for if the tube bends over and reaches the opposite ovary, it will be apt to be so bent and twisted that the ovum will meet with great difficulty in passing through, or if an impregnated ovum passes across the pelvis and enters the tube on the other side, so much time time will be consumed in its journey that it may develop to such a size before it goes to the uterus that it cannot pass through the tube, and will continue its development in this organ. This is the only cause which can be assumed in Dr. Hun's case, for there was no occlusion of the tube by tumors, bands of adhesion, or displacement of the uterus, as are sometimes found in these cases; neither was there any great fright or emotion experienced at or near the time of sexual intercourse, which in a number of such cases has appeared to cause the extra-uterine pregnancy.

Incontinence of Urine from Malformation.

Mr. Noble Smith reports the following case in the *Brit. Med. Jour.*, September 20, 1884:

"I have lately operated (with the help of Dr. Fancourt Barnes) upon a very interesting case of this kind. A young lady, aged 13, had suffered from complete incontinence of urine all her life, and her condition was lamentable. The urine passed away constantly, and was never voluntarily discharged. Medical and surgical advice had hitherto been of no avail. Upon examination, I found that the wall of the bladder above the urethra was deficient. A finger could be passed through the opening into the bladder, and the mucous membrane of this viscus was exposed to the extent of about half an inch. From this enlarged urethra a sulcus extended upwards, dividing the clitoris into two parts. I called in the aid of Dr. Fancourt Barnes, and I then operated with his assistance upon the deformity. I removed the skin from the sulcus downwards as far as the mucous membrane of the bladder, and closed the parts with Dr. Aveling's sutures. Since the time

of the operation, the urine has been retained in a natural manner for three or four hours at a time; and only upon two occasions, and those during sleep, has the urine escaped incontinently.

The Treatment of Pulmonary Affections.

In a paper on the local treatment of the respiratory organs in the *Liverpool Medico-Chirurgical Journal* for July, Dr. F. T. Roberts points out the importance of getting a patient to pay voluntary attention to the acts of breathing and coughing. In many acute pulmonary affections, it was better that the patient should be left at rest, and not be frequently made to breathe deeply for the purposes of clinical examination. On the other hand, there were cases in which it was important to recognize the necessity for energetic respiratory action, so as to open up and prevent the collapse of the smaller air-tubes and air-vesicles. The placing the patient in a suitable posture would materially aid in this matter, and sternutatories and emetics acted in the same way. The line of treatment was indicated where there was a tendency to hypostatic congestion, also in some cases of phthisis, to prevent the possible risk of further infection.

Unnatural Swelling of Hysterical Hemiplegia.

Dr. S. Weir Mitchell records in the July number of *The American Journal of Medical Sciences* three cases of hysteria, in which there was unilateral increase in bulk at or near the menstrual period, and also at other seasons, after emotional excitement, and he has been unable to find elsewhere any narration of similar cases. Whatever conclusions we may reach as to the immediate cause of the unilateral differencces in size, which Dr. Mitchell has here described, it is at least clear that they are under the influence of the nervous system, and vary with the causes which also increase or lessen the analgesia, or give rise to chronic spasm. Beyond this Dr. Mitchell can as yet hardly go. Most probably, he thinks, it will be found that in many unilateral hysteric palsies a like phenomenon exists, and has merely escaped attention because of being the least prominent in a group of symptoms. At all events, it adds another to the large group of resemblances which so closely relate organic to hysteric hemipalsy.

Amputation of the Penis.

We do occasionally hear of the surgeon removing this organ for disease, but it is certainly very unusual to hear of a man cutting off his *own* penis to spite his wife. Yet such a case is reported in the *Medical Herald* for September, 1884, by Dr. John Galt. A German quarreled with his wife, who had made some derogatory remarks about his penis. To drown his grief, he imbibed most freely of the famous product of Kentucky's cereals, and while in an irresponsible condition, hacked away at his throat, nearly severing the carotids, and neatly and squarely cut off his penis, within one-quarter of an inch of the symphysis pubis. He recovered, and lived to regret what he had done.

The Cause of the Albuminuria of Pregnancy.

This much-discussed question was again discussed before the late International Medical Congress by Prof. Halbertsma, of Utrecht, who said that in the first place, the facts observed did not permit his recognizing, as the cause of albuminuria in pregnant women, a reflex contraction of the renal arteries. Secondly, albuminuria in pregnant women was especially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity. And, thirdly, the cause of albuminuria in pregnant women was, in the greater number of cases, tension and compression of the uterus.

The Influence of Opium and Other Remedies on the Cerebral Circulation.

Dr. Curci's experiments, reported in the *Revue de Thérap. Médico-Chir.* No. 16, 1884, seem to throw some light on the subject. The method employed consists in putting the cranial cavity of dogs in communication with a manometer, by means of which the influence of various drugs on the amount of blood contained in the brain can be investigated. Opium and morphia cause well-marked congestion of the brain, while the reverse takes place after the administration of chloral, ether, paraldehyde, and quinine. Dr. Curci thinks that sleeplessness must be treated by chloral in plethoric, and by opium in anæmic people.

To Cure Stammering.

Dr. Ralph Richardson writes to the *Brit. Med. Jour.*, Sept. 27, 1884, that any one may be cured of stammering by simply making an audible note in expiration before each word. Stammerers can sing as easily as other persons. Jacky Broster, of Chester, who made a large fortune by curing stammering, simply made his pupils say *her* before each word beginning with a consonant.

CORRESPONDENCE.

Delirium Tremens.

EDS. MED. AND SURG. REPORTER:

F. S., age 39, bricklayer, periodical drinker, has a spree once in from three to six months, which has twice before terminated with more or less delirium. In the intervals he abstains almost entirely.

Began drinking about the 19th of July last, and kept it up constantly until the 27th, eating little or nothing meantime. The night of the 27th he walked the streets all night because he could not stay in his room. During the forenoon of the 28th thinks he took twenty drinks of whiskey, and in the afternoon his friends got him home, where I was called about 2:30 a. m., 29th. Found him lying in bed, trembling, terribly anxious, with groaning respiration, complaining of pain about the præcordium, and starting violently at times. Pulse full, soft, and irregular, face flushed, tongue coated, etc. Has vomited; can retain nothing solid; bowels free, with pain and tenderness of the abdomen. Gave at once about half a grain of morphia sulphate, hypodermically, and in half an hour the pain and a degree of the anxiety were relieved, and he began to feel like sleeping; and now the peculiarity of his case became manifest, for as soon as he began to doze off a little, his respiration would cease for nearly or quite a minute, when he would start up in bed, throw up his hands, look wildly around, and resume the breathing very rapidly for a few minutes, his hands trembling violently meantime. Then gave strychnia, grain $\frac{1}{50}$ (in solution), every 15 minutes for a time, lengthening the interval to half hour. About five o'clock he had ten minims fl. ex. cannabis indica, which relieved him somewhat, and at seven o'clock one drachm of fl. ex. valerian. At 8½ he was feeling much easier, but could not sleep, the same condition continuing, but much relieved. Continued the strychnia, $\frac{1}{40}$ grain every hour. Phos. $\frac{1}{100}$ every hour with half drachm of fl. ex. valerian, and every three hours 10 drops fl. ex. cannabis indica. To drink all the milk possible, or beef tea; cold to head. At three o'clock p. m., feeling much stronger, more quiet, pulse steadier, could sleep two or three minutes at a time. Has taken milk freely, and some solid food once, but rejected it. Discontinue phosphorus. Continue other treatment. At 9:30 p. m., feeling much better, but not inclined to sleep. Continued treatment, and

℞ Chloral hydrate,
Potass. bromide, āā grs. xv.

with directions that should it increase the tendency to suspension of respiration, to discontinue it, otherwise to give half the quantity every half hour until sleep was procured.

30th, 8 a. m. Chloral not borne, and only one dose. After its effect passed off, he slept pretty well two or three hours at a time. Looks very much improved. Pulse 72; fair strength; tongue cleaning; soreness across abdomen gone. Bowels have not moved in more than twenty-four hours. Has taken and retained solid food. Add to treatment sulphate of cinchona, gr. j., every three hours. ℞ Hydg. chlor. mite., grs. ij., and repeat in three hours, and if the bowels be not opened, pil. comp. cath. imp. every three hours until result obtained. Continue valerian every three hours, and cannabis indica three times daily.

On the 31st, after having slept well, he had a good appetite and no trouble with his digestion, and the next day resumed his work.

Noticeable in this case is the peculiar and unusual effect of the opiate on the respiration. (I have frequently used it similarly with only a good effect.) Without theorizing, two questions are pertinent and important:

1. Would a larger dose have been fatal if not watched?

2. Would a better effect have been obtained by small and frequently-repeated doses?

Noticeable, further, was the apparently good and speedy relief from the pretty free use of strychnia and phosphorus; for we can scarcely attribute the speedy recovery to anything else. On the second day the hands were as steady as is often the case a week later.

O. A. DEAN, M. D.

Beloit, Wis.

Electricity—A Criticism.

EDS. MED. AND SURG. REPORTER:—

If the lecture by my friend Dr. Hugo Engel on "Static and Dynamic Electricity," published in the last number of your journal, had been read before one of the societies, I should have felt it my duty to say a few words in criticism of certain statements contained therein in the interest of those who heard, and with the utmost courtesy to the gentleman making the statements. Presuming that articles published in scientific journals are equally open to criticism in the interest of their readers, I am led to make the following remarks:

Passing over the excellent summary of the physics of static electricity, we find on page 366 an attempt to explain the physics of the galvanic current. I am sorry to say that this explanation is worse than Sanskrit to the electrical student, and must tend to further confuse those who have but a casual acquaintance with the subject. I quote:

"In a galvanic pair the two contrary electricities have no difficulty in uniting through the intermediate fluid, but they therefore possess no great force or intensity. By putting up a great number of pairs we may obtain more force, but it will always have little intensity, though possessing an enormous quantity of electricity, and, therefore, exerting great chemical action."

Though acknowledging the difficulty of grasping what is meant by this paragraph, it would seem to indicate that the writer makes a difference between force and intensity, or quantity. In the science of dynamic electricity no such difference is known; all are dependent on current strength, that is, on the actual amount of current passing through the circuit. In a single galvanic pair the two contrary electricities *do* have difficulty in uniting through the intermediate fluid. A proper diminution of that difficulty, viz., by lessening the resistance of the fluid; by increas-

ing the size of the plates; and by properly proportioning the external resistance, will give us great chemical action, heat, or other manifestation of electrical power. Increasing the number of pairs is but another way of accomplishing the same end, and our choice of these two ways of increasing the power of the current is merely a question of cost and convenience, though one of great importance in the practical applications of this current.

Again, on page 368, an attempt is made to present the law of current strength as discovered by Ohm, and its medical application. I quote but a few words of the latter:

"If we wish to act on the skin or inner organs of the body, we must try to obtain a great amount of quantity, but little force; if it be, however, our intention to employ galvanism as a cautery, we must increase the resistance."

Without again criticising the impropriety of contrasting quantity and force, it will be seen that the statement is made that increased resistance is needed to gain cautery power. This statement is in direct opposition to the terms of Ohm's law, which is correctly given, though clothed in somewhat disused language, immediately above it. It is to be regretted that a more careful study of this fundamental rule of electrical science was not made before going into print.

In making these criticisms, I do not wish to deny that equal misapprehensions exist in the minds of probably a majority of the non-teaching medical public; yet they are none the less to be deplored, as to them are doubtless due the many therapeutical misapplications of this remedy, as well as want of success in proper cases. This unfortunate obscurity is the more conspicuous at the present time to any one who will observe the many exact and beautiful applications of this force to non-medical purposes at the electrical exhibition now being held in this city. It is safe to say that an exceedingly small space would have served to display all instruments and processes there shown which could have been devised without a knowledge of these laws. It is not to be hoped, therefore, that we can ever arrive at a similar exactness in our therapeutical use of this agent as long as rudimentary ignorance prevails among the workers. With that cleared up, I am confident that a high place will be assigned to the galvanic current as a remedial agent.

An important inaccuracy also in the remarks of Dr. Engel on electro-magnetism must not be passed over. On page 369 he states that the polarity of "these [electro-magnetic or faradic] currents continually changes, so that we can almost not speak of a positive and a negative pole." A slight experiment with any convenient battery will convince him that the direct current only of the secondary coil, as manufactured for medical use, is appreciable to the senses. The inverse current cannot be felt or tasted by the most delicate tongue, and is therefore practically absent from either a physiological or therapeutical standpoint. As for the primary or extra current, it is a physical impossibility for any inverse currents to reach the patient, as the short route through the cell is open to it.

G. Betton Massey, M. D.
1502 *Arch street, Philadelphia.*

Providence Letter.

Eds. Med. and Surg. Reporter:—

This being the first letter from the second city in size in New England, I think it not inappropriate to give a brief outline of its location, medical institutions, and other matters which will be interesting to readers of the Reporter.

During the last decade the Rhode Island Hospital has done a good work; it was opened to the public October 1, 1868, but so bitter was the opposition and so foolish the superstition that very little was accomplished during the first three or four years. It seems to be a popular belief in New England that hospitals are places where doctors perform experiments; and even at this late day, many otherwise well-informed citizens would be willing to suffer almost any discomfort rather than be taken to the hospital. The buildings of the hospital are of brick, and consist of a central main building connected by corridors with two large wings, each of which is surmounted by a tower. The wings contain the wards and private rooms for pay patients; the central building the officers' rooms, library, etc. It is without doubt one of the best arranged and finest equipped hospitals in New England. The grounds are extensive and well cared for. The staff consists of about twenty regular physicians and surgeons. A children's ward was opened in 1882, and a training school for nurses was established in the same year. In 1883 a department of gynæcology was added.

There is now at the hospital a case of extra-uterine pregnancy, which will be treated by electricity, and I hope to report a favorable result in a future letter.

At the last quarterly meeting of the Rhode Island Medical Society, cholera was the subject for discussion, and by invitation of the president, Dr. Chapin, Superintendent of Health, spoke in reference to the necessary sanitary precautions against cholera. He considered quarantine of great importance, and maritime before inland, but most important were pure air, pure soil, and pure water. To secure these an efficient system of sewerage was necessary. The sewers are faulty, insomuch as their outlet is so near the business part of the city, and the houses are not all connected with them. It may be well to state that these defects will doubtless be done away with when the City Engineer returns from abroad, where he is inspecting the sewerage system of the important cities.

Dr. Snow, the former Superintendent of Health, spoke briefly in reference to the outbreak of cholera in Providence in 1854, at which time there were 154 deaths. He predicted another outbreak in 1885.

I think it would hardly be right to close this letter without referring to Butler Hospital for the Insane. This institution compares favorably with the institutions of its class, not only in New England, but I think I am not putting the matter too strongly when I say with any institution of its character in the United States. It is a private institution, supported by the money received from patients and by the income of several funds. The building is of brick, and within the past year a fine stable for the use of patients' carriages and

horses and those of the institution has been added. The grounds are extensive, comprising about one hundred and sixty acres, which, with the well-trimmed shrubbery and grand old oaks, must furnish an item in the cure of melancholic patients. The late Dr. Isaac Ray, a name familiar in the medical circles of your city, was the first superintendent; he was succeeded in 1881 by Dr. John Lawyer, the present efficient manager.

At the last meeting of the Medical Society, Dr. Caswell gave notice that at the next quarterly meeting he should offer an amendment to the constitution, changing the time of the annual meeting from the third to the second Thursday in June. This will be probably considered favorably, as the annual meeting now occurs at the same time as that of the Massachusetts Society; it will enable many Fellows of the Rhode Island Society, who are also members of the Massachusetts, to attend both, and will also be favorable to delegates between the two societies.

Dr. Caswell also reported a case of pelvic abscess caused by the use of sponge tents. He used four tents—two of sea-tangle, and two larger sponge tents. At the end of the first week peritonitis appeared, and symptoms of forming abscess soon arose; five weeks later a hard lump was felt in the left iliac region. Finally, ten weeks after the tents were introduced, he opened the abscess through the abdominal wall, and evacuated more than half a pint of healthy pus. A drainage tube was inserted, and the cavity cleansed with the $\frac{1}{2000}$ solution of mercuric bichloride. The tube was removed in ten days; convalescence rapid.

Dr. Porter being called upon, gave his views as to the liability of tents to cause abscess. He thought there was very little danger from the use of the first tent; danger might follow the second or third tent, as sepsis would be invited by prolonged dilatation. He mentioned a case in his personal experience, when, after having removed a tent, a soft polypus was twisted off, leaving an exposed surface. Another tent was introduced. The patient died from septicæmia.

Dr. Myers reported an interesting case of an old man with long-standing paralysis of the lower extremities, and involvement of the sphincter muscle of the bladder. He was unable to hold his water for more than an hour at a time. A rubber urinal not answering his purpose, he had been accustomed to draw his own water by means of a No. 10 American soft catheter. This instrument finally became brittle and nearly broken, but the saving wife repaired this damage with the ever-handy needle and thread. Unfortunately, this proved a case where the old adage, "a stitch in time," etc., did not work; for in attempting to withdraw when next used, the catheter broke where it had been mended, and the lower half remained in the urethra and bladder. It was removed by straight uterine forceps.

In answer to Dr. Myers' inquiry as to the best means of removing the portion of the catheter had it slipped entirely within the bladder, Dr. Caswell recommended a small lithotrite. But in answer to the inquiry, how the catheter could be distinguished from the mucous membrane, no satisfactory answer was given.

B. J. Lillibridge, M. D.

The Patella Reflex.

Eds. Med. and Surg. Reporter:—

In the September 20 number of your excellent journal, you refer to Dr. Baierlacher's observation concerning the tendon reflex as new. If you will refer to my paper published in Vol. 1, No. 2, 1880, *Alienist and Neurologist*, you will find the same fact stated.

My later paper this spring on "Lost not absent patella reflex the sign," refers to the subject.

I have long known that both neuratrophia and certain drugs vitiated the value of the sign.

C. H. Hughes, M. D.

St. Louis, Mo.

News and Miscellany.

A Reminiscence of Mr. Darwin.

James D. Hague thus writes in *Harpers' Magazine* for October:

On my arrival at the door, at the appointed hour, the servant evidently recognized the name of an expected visitor, and took me upstairs at once to a small library room, where I found Darwin alone. He came forward very cordially, putting out his hand in a way to make a stranger feel welcome, and entered directly into conversation in a manner lively enough to relieve any apprehension of his suffering as a great invalid. At that time he was about sixty-two, and he already wore the full gray beard visible in the portraits taken in his later years. We had a little to say about his health, and he spoke of the opinion of some of his friends that its present rather feeble state might be attributed to long-continued seasickness on his voyages years ago; and then said: "So you've been a voyager, too?" and asked me in what part of the Pacific Ocean I had been, and what islands I had seen. I thereupon related to him some of my experiences and observations, which led to a pleasant talk on his part about the coral islands. He spoke with great vivacity and interest of his voyage in the "Beagle," and especially of his work on coral reefs and atolls, of the wonderful impression that those islands make upon the mind of an observer, and of the charm and poetry they possess in their singular beauty and their peculiar origin and structure.

We were presently joined by two of Mr. Darwin's sons (George, now Professor of Astronomy and Experimental Philosophy at Cambridge, England, and Francis, for several years his father's secreand co-laborer in botanical researches), and soon after went down to luncheon, where we met Miss Darwin, his daughter, Mrs. Darwin's absence being excused on account of illness. In the course of conversation I expressed to Mr. Darwin the regret I had ever since felt that when I went out to the South Sea Islands I was so poorly qualified to observe many of the most interesting features of the places visited, as I had studied very little of natural history, and knew nothing of birds, fishes, corals, shells, or anything of that sort. "Well," said he, "you need not think yourself unique in that respect. I never knew a man who had a rare opportunity for observation who did not regret his imperfect qualifications. It was my own ex-

perience. If I could only go now, with my head sixty years years old and my body twenty-five, I could do something." Then he said that his visit to the Pacific, or rather his voyage in the "Beagle," was the beginning of his scientific career; that he had not before given much serious attention to science, or studied with a definite purpose; that when the "Beagle" was fitting out he was a young man, fond of sport, shooting and fishing, and with a strong liking for natural history; and it seemed to him a pleasant thing to go as volunteer on a party with his friend Captain Fitzroy. Even after he came back, he said, it was only after many talks with Lyell, who always heard with interest whatever he had to say, and who urged him to work up and publish his results, that he determined to devote himself to scientific studies.

After a while he spoke of some of his American friends, saying that Mr. Charles Elliot Norton and family had been his neighbors in the country for a time, and that he had enjoyed their society very much. He also mentioned visits which he had received from the younger Agassiz and from Dr. Gray, saying of the latter, "Gray often takes me to task for making hasty generalizations; but the last time he was here talking that way I said to him: 'Now, Gray, I have one more generalization to make, which is not hasty; and that is, the Americans are the most delightful people I know.'"

The conversation having turned upon his last book, *The Descent of Man*, which had made its first appearance only shortly before, he spoke of the reviews which he had so far seen, saying that most of them were, of course, somewhat superficial, and doubtless others might come later of a different tone, but he had been much impressed by the general assent with which his views had been received. "Twenty years ago," said he, "such ideas would have been thought subversive of everything good, and their author might have been hooted at; but now not only the press, but, from what my friends who go into society say, everybody, is talking about it without being shocked."

"That is true," I said, "but, according to Mr. *Punch*, while the men seem to accept it without dissent, the women are inclined to protest."

"Ah, has *Punch* taken me up?" said Mr. Darwin, inquiring further as to the point of the joke, which, when I had told him, seemed to amuse him very much. "I shall get it to-morrow," he said; "I keep all those things. Have you seen me in the *Hornet*?" As I had not seen the number referred to, he asked one of his sons to fetch the paper from upstairs. It contained a grotesque caricature representing a great gorilla having Darwin's head and face, standing by the trunk of a tree with a club in his hand. Darwin showed it off very pleasantly, saying slowly, and with characteristic criticism, "The head is cleverly done, but the gorilla is bad: too much chest; it couldn't be like that."

The humorists have done much to make Mr. Darwin's features familiar to the public, in pictures not so likely to inspire respect for the author of *The Descent of Man* as they are to imply his very close relation to some slightly esteemed branches of the ancestry he claims; but probably no one has enjoyed their fun more than he.

Luncheon was already over, and, mindful of Lady Lyell's caution, I took an early leave.

Official List of Changes of Station and Duties of Medical Officers of the United States Marine Hospital Service, July 1, 1884, to September 30, 1884.

Bailhache, P. H., surgeon. To proceed to Delaware Breakwater Quarantine Station as inspector, September 10, 1884. To investigate reported pollution of Potomac river water supply, September 20, 1884.

Miller, T. W., surgeon. Granted leave of absence for fourteen days, July 10, 1884. Detailed as President Board of Examiners, September 2, 1884.

Wyman, Walter, surgeon. Detailed as member Board Examiners, September 2, 1884.

Long, W. H., surgeon. Granted leave of absence for twenty days, July 30, 1884.

Purviance, George, surgeon. Detailed as recorder Board of Examiners, September 2, 1884.

Stoner, G. W., passed assistant surgeon. To proceed to Lewes, Del., (Delaware Breakwater) as inspector, July 25, 1884. To act as quarantine officer at Delaware Breakwater, July 31, 1884.

Fisher, J. C., passed assistant surgeon. Granted leave of absence for thirty days, August 21, 1884.

Goldsborough, C. B., passed assistant surgeon. Granted leave of absence for thirty days, July 12, 1884. Leave of absence extended thirty days on surgeon's certificate of disability, August 11, 1884. Leave of absence extended thirty days without pay, September 11, 1884.

Heath, W. H., passed assistant surgeon. Granted leave of absence for thirty days, September 8, 1884.

Guitéras, John, passed assistant surgeon. Granted leave of absence for thirty days, September 24, 1884.

Banks, C. E., passed assistant surgeon. Granted leave of absence for thirty days, August 27, 1884.

Bennet, P. H., assistant surgeon. To proceed to Buffalo, N. Y., for temporary duty, September 19, 1884.

Glennan, A. H., assistant surgeon. To proceed to Mobile, Ala., for temporary duty, July 7, 1884.

RESIGNATION.

Fisher, J. C., passed assistant surgeon. Resignation accepted by the Secretary of the Treasury, to take effect September 30, 1884, August 21, 1884.

The Next Meeting of the International Medical Congress.

Germany is piqued because the International Medical Congress will hold its next session in this country. The *Berliner Klinische Wochenschrift* says that Virchow pleaded for Berlin, but brought no special invitation, as he and his colleagues were under the idea that the Congress chooses and is not invited to its next place of meeting. Unfortunately the German votes were divided, and Washington was selected, to the disappointment of the writer at least. "We showed in 1881 that, in the natural course of things, Germany ought to be visited in 1887," says the

writer, "and there is a national obligation in the matter. The prominent position taken by that country in science, and willingly or unwillingly accorded to her by the world, has developed certain duties on the principle of 'noblesse oblige.' It might be said that the French might object to go to Berlin; but in the first place this would be their own loss, and in the second we have received the impression that the scientifically imbued French would gladly look at medicine in Germany, and especially in Berlin. The hero-worship lavished on Pasteur—and we say this more freely as we perfectly recognize his services to science—and the manner in which Koch's labors were lowered directy and indirectly, made, however, a strong impression. The French were always adepts at the 'mise en scène.' For all that, there was a decided inclination to go to Berlin amongst them."

American Academy of Medicine.

The ninth annual meeting will be held in Hopkins Hall (Johns Hopkins University), Baltimore, on October 28 and 29. The following programme has been arranged:

TUESDAY, OCTOBER 28, 3 P. M.

Opening of session, with prayer.
Reading of minutes of last annual meeting.
Report of Council.
Election of Fellows.
Appointment of Committee on Nominations.
Reading of Papers:

"The Relation of the Medical Colleges to Preliminary Education," by Peter D. Keyser, A. M., of Philadelphia, Pa.

"The Examination of Applicants for License to Practice, a Means of Raising the Standard of Medical Education," by Edward Jackson, A. M., M. D., of Philadelphia, Pa.

"The Rôle of Bacteria in Infectious Diseases," by Henry O. Marcy, A. M., M. D., of Boston, Mass.

"The Trade Aspect of Medicine," by Albert H. Gihon, A. M., M. D., Medical Director, U. S. Navy.

"The Induction Coil; Its Varieties and the Differential Indications for Their Use," by A. D. Rockwell, A. M., M. D., of New York, N. Y.

Report of Treasurer.
Unfinished Business.
New Business.

At eight o'clock, p. m., address, by Benjamin Lee, A. M., M. D., of Philadelphia, Pa., President, on "Differentiation the Test of Civilization: The Specialist and His Education."

WEDNESDAY, OCTOBER 29TH, 10 A. M.

New Business.
Report of Committee on Nominations.
Reading of Papers:

"The Teachings Derived from Observations in 137 Abdominal Sections," by R. Stansbury Sutton, A. M., M. D., LL. D., of Pittsburgh, Pa.

"Some Comparative Results of Treatment of Chronic Articular Osteitis of the Hip," by Virgil P. Gibney, A. M., M. D., of New York, N. Y.

"The Place of the Physician in Literature," by Charles C. Bombaugh, A. M., M. D., of Baltimore, Md.

"The Aim in Treatment of Angular Curvature of the Spine," by T. M. Ludlow Chrystie, A. M., M. D., of New York, N. Y.

"Physiology in its More Public Relations," (Public health, physical culture, family institution, true civilization), by Nathan Allen, A. M., M. D., of Lowell, Mass.

"Statistics of Glaucoma," by Herman Knapp, A. M., M. D., of New York, N. Y.

"Specialties and Their Relation to the Medical Profession," by L. Duncan Bulkley, A. M., M. D., of New York, N. Y.

"Report on Laws Regulating the Practice of Medicine in the United States and Canada," by Richard J. Dunglison, A. M., M. D., of Philadelphia, Pa., and H. O. Marcy, A. M., M. D., of Boston, Mass.

New Business.
Induction of President-elect.
Appointment of Additional Members of Council.
Unfinished Business.
Adjournment.

The annual collation will take place at the Athenæum Club, corner of Charles and Franklin streets, Baltimore, on Tuesday evening, October 28th, at half-past nine o'clock, immediately after the president's address. Fellows desiring to participate will please forward two dollars to Dr. C. C. Bombaugh, P. O. Box 498, Baltimore, Md.

Dr. J. S. Billings, Surgeon United States Army, and a Fellow of the Academy, has kindly offered to show the new Johns Hopkins Hospital, on the afternoon of Wednesday, October 29th, to those Fellows of the Academy who may desire to see it.

Dr. Delafield on Broncho-Pneumonia.

Dr. Delafield, of New York, will read a paper on broncho-pneumonia at the next semi-annual meeting of the Pathological Society, to be held at the College of Physicians and Surgeons, 13th and Locust streets, October 23d, at 8 o'clock p. m. The general profession are cordially invited.

Protracted Gestation.

A singular case is reported in a recent number of the *Gaz. des Hopitaux*. At the autopsy of a woman 84 years of age, a hard-walled, irregular-shaped cyst was found in the right Fallopian tube, which, on being opened, was found to contain a completely unchanged, fresh-looking, normally-developed fœtus of apparently six or seven months' growth. The woman was known to be pregnant when she was 28 years of age, but not afterwards, so that it is supposed she carried her young 56 years.

Changes in the Blood Corpuscles by Malaria.

Before the late International Medical Congress, Professor Tommasi-Crudelli (Rome) gave an interesting microscopical demonstration of the changes in the red corpuscles effected by the action of the malaria-ferment. The process was traced from the first appearance of the ferment in isolated round spots on the corpuscle, through its gradual multiplication, the consequent development of pigment in the cells, and their gradual disintegration. The series of preparations was closed by one in which a vessel was seen occluded by the *debris* of the red cells.

Personal.

—Dr. J. W. C. O'Neal, of Gettysburg, Pa., Corresponding Secretary of the Adams County Medical Society, started on a trip to Europe the second week in October. He will visit the schools and hospitals of London, Edinburgh, and the medical centres of Europe, during the winter.

Items.

—In the *Pacific Medical and Surgical Journal*, September, 1884, Dr. Albert Abrams reports a case of floating kidney with cure.

—For temperance people who cannot drink whiskey, a Boston firm is putting up what is called "Fluid Extract of Rye."—*Ex.*

—Dr. Oulmont, honorary physician to the Hotel Dieu, and member of the Academy of Medicine, died September 18, in the seventieth year of his age.

—In the *Pacific M. and S. Journal*, September, 1884, Dr. M. F. Price reports a case of insanity caused by depression of skull from old wound: trephining and recovery.

—Up to September 30th, the total number of deaths from cholera in Europe was not far from 15,000. Of these Italy has over 8,000; France, about 6,000; Spain, 400.

—A new street paving has been introduced in Berlin, and it is said to be superior in many respects to wooden blocks. It consists of layers of bricks impregnated with asphalt.

—Typhoid fever is reported to be on the increase in Paris. The Seine is in a foul state, smelling like an open sewer. Even the drinking water has a distinct odor, which is only removed by boiling.

—In his presidential address at the Social Science Congress, Dr. Norman Chevers urged the need and importance of appointing a Minister of Health. We should have a similar officer in the Cabinet of the President.

—A local paper, in giving the usual graphic account of an accident which befell a hod-carrier, wound up by stating that "Dr. B. was called in, but no disastrous results had followed up to the time of our going to press."

—According to MM. Treille and Straus, the comma bacillus is not special to cholera, for they have found the same bacillus in the dejecta of patients suffering from the diarrhœa of Cochin China, or, rather, the diarrhœa of hot countries.

—Dr. Koch has recently given a course of lectures in Berlin, the purpose of which is to instruct military medical officers in the microscopic investigation of the cholera bacillus, with a view to the prompt detection of cases of Asiatic cholera.

—The discussion of the disease termed "miryachit" has been conducted with so much warmth in Naples, that an editor of one of the Neapolitan medical journals is said to have sent a challenge to a *brother* editor to decide the dispute by mortal combat.

—Dr. Fraser C. Fuller, in the October number of *The American Journal of Medical Sciences*, publishes an instructive article on antiseptic surgery, with illustrative cases, showing in detail the steps of an operation conducted on antiseptic principles.

—The committee charged with the organization of the Ninth International Medical Congress, to be held in Washington in 1887, is constituted as follows: Drs. Austin Flint, of New York; I. Minis Hays, of Philadelphia; Lewis A. Sayre, of New York; Christopher Johnston, of Baltimore; George J. Engelmann, of St. Louis; J. S. Brown, of U. S. Navy; and J. S. Billings, of U. S. Army.

—An iodoform collodion is well spoken of, consisting of iodoform ten parts, collodion ninety parts. To be applied with a camel's-hair brush, the edges of the wound being held together until it dries. For wounds in exposed situations.

—Dr. Amerman, of Danville, Pa., reports a case of fracture of the humerus in a base ball pitcher, produced by muscular effort in pitching a ball to the batter in a recent game played at that place. The fracture was a transverse one, occurring between the middle and lower thirds of the arm.

—The third International Otological Congress was held at Bâle from the 1st to the 4th of September. About forty papers and demonstrations of much interest to aurists were presented and discussed, and the Congress, in the proceedings of which some eighty members took part, may be described as having been most successful. The next Congress is to be held at Brussels in 1888.

—The eleventh meeting of the German Society for Public Hygiene was opened on the 15th of September at Hanover. The first subject of discussion was "The Promotion of Hygienic Instruction." Professor Flügge spoke very earnestly in favor of the establishment of hygienic institutions at the universities. On the 16th, the subject was "The Hygienic Inspection of Schools by the School Doctor." The opinions expressed were very opposed, some being in favor of strict medical inspection for each particular school, others advocating a careful hygienic training for the masters and mistresses of the schools. Vienna has been unanimously chosen as the place for the next meeting of the International Hygienic Congress in 1886.

MARRIAGES.

JOHNSON—KENDALL.—September 13, 1884, in South Woodstock, Vt., by Rev. B. M. Tillotson, Dr. Henry E. Johnson, of North Attleboro, Mass., and Nellie A. Kendall, of Woodstock.

SMITH—WELDON.—October 1, 1884, in New York, at the residence of the bride's father, by Rev. John Hale, D. D., Dr. Andrew Heermance Smith and Jane Terry, daughter of James O. Sheldon.

SWAN—FANSHAWE.—October 1, 1884, at Morristown, New Jersey, in the Church of the Redeemer, by Rev. Mr. Chadwell, Charles Young Swan, M. D., and Clara Conillard, daughter of Henry A. Fanshawe.

DEATHS.

COX.—October 1, 1884, in this city, Harry O. Cox, M. D., aged 26 years.

FETTER.—October 2, 1884, at his residence, 262 West 34th street, New York city, David F. Fetter, M. D.

GOELL.—September 27, 1884, in this city, Dr. A. C. Goell, aged 79 years.